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Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH, AND DEVELOPMENT

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WORLDWIDE REPORT

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

CONTENTS

ASIA

EAST EUROPE

LATIN AMERICA

NEAR EAST/SOUTH ASIA

WEST EUROPE

AUSTRALIA

REUTER BUYS MAJORITY SHAREHOLDING IN VISNEWS

HK290716 Hong Kong AFP in English 0655 GMT 29 Oct 85

[Text] Sydney, Australia, Oct 29 (AFP)--REUTERS has acquired a majority shareholding in Visnews, the international television news agency, Visnews announced here today.

At its first annual general meeting held outside Britain, Visnews said that REUTERS had increased its holding from one third to 55 per cent through the purchase of shares from the British Broadcasting Corporation (BBC).

The BBC's stake in Visnews is now 11.25 per cent, the same level as the other shareholders--the Canadian Broadcasting Corporation (CBC), the Australian Broadcasting Corporation (ABC) and the Broadcasting Corporation of New Zealand (BCNZ).

Under an agreement approved by the Visnews board today, REUTERS will pay 2.6 million pounds sterling (3.7 million dollars) in cash to the BBC.

Visnews is the biggest company in its field, supplying daily television news coverage from all over the globe to broadcasters in 83 countries.

REUTERS Managing Director Glen Renfrew said his agency's majority shareholding in Visnews would enable REUTERS to develop the overlapping interests in the two companies, particularly in communications and news pictures and newsfilm distribution.

/6091
CSO: 5500/4309

BRIEFS

PUBLIC PHONE SERVICE FROM AIRCRAFT--Tokyo, Oct. 1 KYODO--Nippon Telegraph and Telephone Corp. (NTT) said Tuesday it plans to make in-flight pay telephone service available on domestic air routes from next April. NTT will launch the service aboard some 90 Japan Air Lines (JAL), All Nippon Airways (ANA) and Toa Domestic Airlines (TDA) aircraft, installing some 120 card pay phones, the company said. Fees will be 500 yen per minute, NTT said, adding that the service will not enable passengers to receive calls from the ground. NTT will be the second firm to offer this service. Air Fone of the United States began a "flying" public phone service last October on U.S. domestic routes. The Ministry of Posts and Telecommunications is working on the relevant laws for the service. [Text] [Tokyo KYODO in English 0239 GMT 1 Oct 85 OW]

OPPOSITION TO NTT-IBM VENTURE WITHDRAWN--Tokyo, Oct. 8 KYODO--Japanese communication equipment makers Tuesday decided to withdraw their opposition to a planned joint venture between Nippon Telegraph and Telephone Corp. (NTT) and IBM Japan Ltd., a subsidiary of International Business Machines Corp. (IBM) of the United States. A spokesman for the Communication Industries Association of Japan (CIAJ) said the CIAJ, which has opposed the plan, maintaining that the venture between two "giant companies" would run counter to the principle of free competition, came to the decision for fear of intensifying the already acute Japan-U.S. trade friction. The joint venture plan calls among other things for development of common communications software, sales of IBM computers, establishment of a joint venture firm before the end of December and development of "value added network" (VAN) services--integrated services linking different computer systems--both in Japan and abroad. [Text] [Tokyo KYODO in English 1135 GMT 8 Oct 85 OW]

MARUBENI STARTS VAN TELECOMMUNICATIONS--Tokyo, Oct. 9 KYODO--Marubeni Corp. said Wednesday its joint venture with McDonnell-Douglas Corp. of the United States will start value added network (VAN) telecommunications services across Japan in December. The joint company, network service, will be the first trading firm-initiated venture to start a VAN business in Japan. It said computing centers in five major cities--Sendai, Tokyo, Nagoya, Fukuoka and Osaka--have been linked with a circuit leased from Nippon Telegraph and Telephone Corp. (NTT). The company said the network will be extended by the end of October to connect with 10 more cities: Sapporo, Niigata, Toyama, Kanazawa, Shizuoka, Hamamatsu, Okayama, Hiroshima, Takamatsu and Fukuoka.

Network service capitalized at 800 million yen, was inaugurated by 31 companies, including Marubeni, McDonnell-Douglas and Fuyo Group firms, led by Fuji Bank. It receives technical aid from Tymnet, an affiliate of McDonnell-Douglas and the world's largest VAN enterprise, based in California. The company expects Fuyo Group companies, major supermarkets and other organizations to become users. It hopes for initial year sales of 500 million yen, doubling in the second year. [Text] [Tokyo KYODO in English 1136 GMT 9 Oct 85 OW]

NTT ADOPTS INTERNATIONAL STANDARDS--Tokyo, Oct. 16 KYODO--Nippon Telegraph and Telephone Corp. (NTT) will adopt universal digital transmission standards being promoted by the International Telegraph and Telephone Consultative Committee (CCITT), NTT President Hisashi Shinto said Wednesday. NTT's version of a digital transmission network, called the information network system (INS) and planned to start next year, will send information through optical-fiber cables at the speed of 88 kilobits per second compared with 144 kilobits of the CCITT standards, which most European countries and the United States plan to apply. Shinto told a press conference that at the start the INS will use the 88-kilobit system but that later adjustments of digital switching systems will enable the INS to conform with the CCITT standards. [Text] [Tokyo KYODO in English 1157 GMT 16 Oct 85 OW]

CSO: 5560/032

PEOPLE'S REPUBLIC OF CHINA

DEVELOPMENT OF CHINA'S MICROWAVE COMMUNICATIONS DISCUSSED

Shanghai XIANDAI TONGXIN [COMMUNICATIONS TODAY] in Chinese No 7, 8 Jul 85 pp 1-2

[Article by Zhong Yunruo [6988 0336 5387], Assistant Director of the Institute of Posts and Telecommunications Science: "Develop China's Microwave Communications"]

[Text] Microwave communication is a modern means of communications. The first microwave communication circuit in the world has only been in existence for a little more than 30 years, however, because of its outstanding advantages, it has been rapidly developed in all nations. In the communications circuits in the U.S., more than 70 percent are microwave circuits. In other countries, microwave communication is used at between 50 to 70 percent. Microwave communication is so widely used because of its high capacity, low capital costs, fast rate of construction, high resistance against disasters, adaptability to various terrains, and ability to meet the quality requirements of modern communications. In recent years, microwave communication is being developed in the directions of high capacity, low energy consumption, miniaturization and unmanned operation. In addition, it is capable of satisfying all the requirements in digital communications. Therefore, microwave communication has already become an indispensable means in modern communications.

China started early in microwave communication. However, its development is lagging behind due to many reasons. Based on a report of the Ministry of Posts and Telecommunications to the Central Committee of the Chinese Communist Party in 1956, Comrade Mao Zedong clearly pointed that we wanted to develop microwave communications in China. In the late 1960's and early 1970's, China already had the ability to manufacture microwave communication equipment. Comrade Zhou Enlai made many important arrangements in microwave construction and personally determined the microwave routes and construction policies. In 1962, a microwave communication system with a capacity of 60 telephones and one television channel was developed. In addition, some experimental circuits were also developed. In 1966, a large capacity microwave system with 600 telephone lines was successfully developed to reduce the gap between microwave communication in China and that of the world to approximately 10 years. In 1972, China successfully developed a semiconductor based microwave communication system capable of handling 960 telephone lines and one

television channel. In 1974, China approximately had 10,000 kilometers of microwave communication lines, connecting 26 provinces and cities to transmit color television programs, connect telephones and deliver facsimile editions of RENMIN RIBAO. The May Day celebration was transmitted via microwave to Guangzhou in 1974. An amateur radio operator in Hong Kong received the color television program from Beijing by using a high efficiency antenna. He wrote a beautiful letter to praise the new technology.

The capacity of a microwave communication circuit is very large. The 1,800 line microwave communication system developed by China could simultaneously transmit over 8 channels and each channel could handle 1,800 telephone calls or 1 color television program. With new breakthroughs in technology, other countries have developed larger capacity microwave equipment in recent years. The capacity per channel is increased to 2,700, or even 6,000, telephone calls to fully demonstrate the superiority of microwave communications. Microwave, similar to light in characteristics, is transmitted in a straight line. It can be transmitted to a distance of several thousand kilometers by building a relay station every 50 kilometers or so to amplify and retransmit the signals. Microwave communication can adapt to various terrains. It can easily cross mountains and lakes. The microwave circuits built in China are crossing over the Qinling Mountain and the Wutai Mountain, as well as the Huanghe River, the Changjiang River and the Taihu Lake. Furthermore, microwave circuits are scattered as points and the signals are transmitted in the air. Therefore, it has a stronger tolerance against disasters. In 1975, 17 counties in Henan were flooded and all means of communications were cut off. The microwave circuit between Beijing and Guangzhou which goes through the disaster area, however, was operating normally. In early 1983, the Northeast was belted by a blizzard and all communications over land were interrupted. The microwave circuit of the Ministry of Water Resources and Electric Power temporarily solved the problem. During the Tangshan earthquake, the microwave line between Beijing and Shenyang was operating normally. From these facts, it is obvious that the disaster resistance of microwave lines is superior. Because in microwave communication a relay station has to be built in every 50 kilometers, the construction can begin in parallel. Thus, the speed of construction is very fast. In a period of over 3 years from 1969 to 1972, China completed microwave lines to cover more than 10,000 kilometers. In another 3-year period from 1980 to 1983, special microwave circuits were built by various departments in hydropower, petroleum and broadcasting to cover more than 20,000 kilometers. The rate of construction is very fast. As for the investment required, the price tag per kilometer differs due to factors such as capacity, terrain, etc. On the average, the cost per kilometer for the microwave circuits built in the early 1970's is around 20,000 yuans. The cost for co-axial cable per kilometer, however, is approximately 106,000 yuan. Therefore, as long as we pay attention on saving money, the cost of microwave is approximately one-fifth of that of cable. In addition, we will save large amounts of copper and lead.

The advantages of microwave communication have long been demonstrated in practice in China. Due to various reasons, however, the development of microwave communication in China followed a tortuous path. First, because microwave communication was a leading edge technology, China did not have a good foundation. Due to the 10-year period of chaos, there are many technical

and quality problems in scientific research, production, construction and maintenance to make the quality of existing microwave circuits unstable. Similar situations also took place in developed nations such as the U. S., Japan and France. The first microwave circuit in the U. S. broke down 225 time in the first 6 months. In the early stage in Japan, more than 1,000 kilometers of microwave equipment was scrapped due to quality related reasons. In France, it took approximately 10 years since the completion of its microwave circuit to improve quality thoroughly. It took about 7 years of technical reform to stabilize the quality of communications in the initial microwave circuit built in China, which seriously affects the further development of microwave systems. In addition, due to the lack of an overall understanding of security in communications, all communication lines are required to be secured. Thus, the utilization and development of microwave circuits is limited. In some areas, microwave is not utilized in spite of its superior quality. A great deal of money is invested to maintain security in a few cases. This problem may be resolved by formulating economic and rational measures after reviewing the situations in the world. If we open the large number of civilian telephone lines on microwave and maintain security measures for a few necessary lines, then not only a great deal of money can be saved in the construction of communications network in China but they also can be built more rapidly. Based on the experience abroad, existing microwave circuits can be continuously upgraded with new technology in order to expand capacity, improve performance and meet the needs in communications. Initially, the microwave circuit in the U. S. could only handle 480 telephone calls per channel. Through numerous improvements, the capacity has been increased. Some of them have been upgraded to 2,400 calls. Moreover, because of the successful development of the pressure expansion single band modulation method, capacity can still increase in multilpes. Most of the provinces, cities and autonomous regions in China are linked by existing microwave circuits. If the lines can be upgraded by using matured technology, not only the capacity can be increased but also the stability can be improved. Most of the stations can be operated unmanned to improve efficiency and cut costs.

We are facing the challenge from new technology. Microwave communication will sooner or later be rapidly developed. In the near future, microwave communication, in conjunction with optical fiber communication and satellite communication, will be used to form a modern communication network. We must realize this trend and start our preparation and planning in order to complete a modern communication network early and to promote the realization of the four modernizations.

12553
CSO:5500/4130

PEOPLE'S REPUBLIC OF CHINA

WU LENGXI INSPECTS HEILONGJIANG PROVINCIAL BROADCASTING WORK

SK150528 Harbin Heilongjiang Provincial Service in Mandarin 1000 GMT 14 Aug 85

[Text] This morning Comrade Wu Lengxi, chairman of the All-China Journalists' Association and former minister of the Ministry of Radio and Television, held a forum with staff members and workers engaging in radio and television broadcasting work. He encouraged the participants to vigorously do a good job in carrying out radio and television broadcasting work in order to bring into better play the role of radio and television broadcasting as the party's mouthpiece.

Prior to the forum, Comrade Wu Lengxi visited the Heilongjiang Provincial People's Broadcasting Station and the provincial television station and heard briefings given by the responsible personnel of the provincial radio and television department and of the two stations. Then he held a forum with these personnel, at which Comrade Wu Lengxi stated: Heilongjiang Province occupies an important position in our country's program of building the four modernizations. He expressed the hope that the workers engaged in radio and television broadcasting work throughout the province will earnestly study the important speech given by Comrade Hu Yaobang concerning journalism and bring into full play the role of radio and television broadcasting as the party's mouthpiece in order to steadily upgrade the quality of radio and television programs and to better serve the program of building socialist material and spiritual civilizations.

CSO: 5500/4132

PEOPLE'S REPUBLIC OF CHINA

JIANGXI COMPLETES 3 SATELLITE TV GROUND STATIONS

OW111109 Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 10 Sep 85

[Text] The installation of equipment provided by the State Council to Jianxi for setting up three ground stations designed to receive satellite-relayed televised programs has been completed. The Nanchang station was commissioned on 17 August, and the other two -- the (Sanxianling) station in Shangrao Prefecture and the (Fengshan) station in Ganzhou Prefecture -- were commissioned on 6 and 8 September respectively. The television signals received through these stations are clear and stable, the color is vivid, and the sound loud and clear.

These stations are the first three to be completed in Jiangxi. Thanks to the correct leadership and attention of the various departments concerned, and especially to Vice Premier Li Peng's recommendations for the construction of these stations, all those who took part in the construction project were greatly encouraged.

The successful completion of the three stations is the result of the efforts of the No 39 and No 14 institutes and the No 924 plant under the Ministry of Electronics Industry, which provided the equipment and sent a technical support team headed by their chief and deputy chief engineers, and the around-the-clock cooperation of personnel of the technical office of the provincial radio and television department, the provincial television station, and the (Sanxianling) and (Fengshan) television stations.

CSO: 5500/4132

PEOPLE'S REPUBLIC OF CHINA

XIZANG OPENS SATELLITE-RELAYED TV STATION

HK131225 Lhasa Xizang Regional Service in Mandarin 1130 GMT 12 Sep 85

[Text] On the evening of 11 September, Xizang officially opened the Lhasa satellite-relayed TV station. This is one of the five satellite-relayed TV stations presented by the State Council to the region. This is also another example of the profound concern of the CPC Central Committee and the State Council for the region's people of various nationalities.

Located on the southwestern border of China, the region is a mountainous area with a scattered population and a limited television broadcasting coverage area. In order to enable the region's people of various nationalities to promptly watch the programs of China Central Television, the CPC Central Committee and the State Council recently decided to present five satellite-relayed television stations to the region. These television stations are located at Lhasa, Linzhi, Shannan, Rikeze and Naqu.

In the course of construction, engineers and technicians of the Ministry of Aeronautics Industry, the No 1 research institute, and the region's departments concerned made great and concerted efforts. They strived to promptly complete construction of the five satellite-relayed television stations and put them into operation.

During the construction stage of the Lhasa satellite-relayed television station, engineers and technicians solved many problems despite the press work. They completed the high-quality installation and adjustment within 3 days.

This (Sui Pin Duan) 6-meter [dish] satellite-relayed television station is used to directly receive programs of China Central Television transmitted by international satellite. In addition, with the use of (Cha Zhuan) equipment, the signal received is promptly relayed to viewers through the television system. This kind of television station is suitable for broadcasting in remote areas, provinces, cities, prefectures, counties, coastal areas, islands, [words indistinct], factories, mines, enterprises and units. This kind of television station can receive multi-channel programs transmitted simultaneously by an international satellite, so that viewers can watch a sharp and steady picture and can listen to clear sound.

The opening of the Lhasa (Sui Pin Duan) 6-meter [dish] satellite-relayed television station will greatly improve the reception quality of channel one's programs of China Central Television. Viewers can now watch sharp pictures as well as listen to clear sound.

CSO: 5500/4132

PEOPLE'S REPUBLIC OF CHINA

BRIEFS

HEBEI POSTS, TELECOMMUNICATIONS--Shijiazhuang, 15 Aug (XINHUA)--In less than a year, Hebei Province has set up 1,312 post and telecommunications agencies in townships and towns through various ways. The number of townships and towns that have established their own post and telecommunications organs or set up agencies to handle this work has exceeded 2,600, accounting for 71 percent of the province's total townships and towns. In addition, the province has also set up 2,594 new stations in rural areas to handle mail and newspapers, bringing the percentage of the province's villages having this service to 78.6. [Text] [Beijing XINHUA Domestic Service in Chinese 0747 GMT 15 Aug 85 OW]

HEILONGJIANG SATELLITE STATION--A ground satellite reception station was completed in Fuyuan County of Heilongjiang Province, the easternmost corner of the motherland, on 15 September. The people in Fuyuan can watch the programs of the central television station on the same day. [Text] [Harbin Heilongjiang Provincial Service in Mandarin 1000 GMT 17 Sep 85 SK]

CSO: 5500/4132

POLAND

SATELLITE NAVIGATION SYSTEM TESTED

Warsaw PRZEGLAD GEODEZYJNY in Polish No 1, Jan 85 pp 3-4

[Article by Andrzej Felski and Stanislaw Zarychto of the Higher Naval School, Gdynia: "Testing the Accuracy of the Transit System MX 1102 Receiver"]

[Text] Introduction

This article presents the test results on the accuracy of fixing the position of a stationary object of navigation with the aid of a shipboard Transit satellite navigation system receiver. Attention is focused on the pronounced dependence of position error on the angle of culmination and how position accuracy varies with the satellite being used for observation.

The increasing requirements relative to fixing a ship's position and the dynamic development of space technology and techniques are the primary causes for the development in the mid-1960's of the first Transit satellite navigation system. Today it is the most widely used satellite navigation system among several such systems in operation. Some of the incontrovertible advantages of this system are: its area of operation covers practically the entire earth; its measurements are very accurate; and it is practically independent of hydrometeorological conditions.

The Transit System MX 1102 Receiver

Even though the history of the development of the Transit system spans many years, it was only in the 1980's that this system's receivers became widely used shipboard navigation equipment. This happened in conjunction with the appearance of receivers that were so automated that they could be operated by a navigator or a person not qualified in electronics or computer science. The MX 1102 is a typical example of such equipment. It consists of two basic units: a receiver antenna with a built-in preamplifier and a main unit containing the remaining circuits. The equipment is connected to a log and a gyrocompass in order to take into account the movement of a vessel during communications with a satellite as well as during periods of non-communications with a satellite. This receiver is extensively automated, which minimizes monitoring operations. The data, especially geodetic coordinates and their respective times, are displayed in digital form on a monitor.

The operation of a MX 1102 receiver, just like the operation of other satellite navigation receivers, can be divided into the following cycles:

--initiating the operation (inputing initial data);

--fixing the observed position;

--calculating the path between position observations;

--automatic monitoring.

The basic cycle of operation--fixing an observed position--occurs automatically without the navigator's help and immediately after the satellite appears in the receiver's radio visibility zone.

The many advantages of the presented system and the high degree of the receiver's automation are reasons why navigators often arrive at a fixed position so easily. However, satellite systems are so different from traditional navigation systems that evaluating the accuracy of satellite-based navigation also requires a different approach. It should be understood that the accuracy of navigating with the aid of this type equipment means the accuracy of the calculated-observed position. Of course, this accuracy depends on the accuracy of the observed position and the accuracy of calculating the path.

Test Results on the Accuracy of the MX 1102 Receiver

The main purpose of the referenced MX 1102 receiver tests was to evaluate the fixing position errors of an observed stationary object. The object of the tests was to obtain position data with the aid of a stationary receiver mounted on a ship during a series of 24-hour periods over a time span of 1 year. Total observation time was 846 hours during which 926 positions were observed, of which 733 were evaluated as correct by the receiver's software. During the entire time measurements were taken, the position of the receiver antenna was fixed. It was ascertained that the water level did not vary significantly (+/- 10 cm) during the entire time measurements were being taken.

Based on the available literature, it was assumed that the distribution of position coordinates observed with the aid of a shipboard satellite navigation system receiver would be a random-value normal distribution, and that the error in both variables (geodetic length and width) would be uncorrelated. The gathered data was checked by verifying the above assumptions. At a 0.01 level of significance, it was shown that no basis exists to reject the hypothesis that position coordinates are subject to a normal distribution. It also was determined that the error correlation coefficient for both coordinates is no greater than 1×10^{-10}, from which it was assumed that the variables are not mutually correlated.

The position root-mean-square error for the total data population and for the various subgroups of data selected on the basis of season of the year, time of day and satellite number were determined (Table 1).

The root-mean-square error based on the total data is M = 143 m with P = 63 percent (the manufacturer specifies 93 m with P = 50 percent). This value does not vary significantly for different seasons of the year or different times of the day, except for the series of measurements taken between 19 to 26 January 1983 when it was ascertained that M = 88 m. The mean position for the individual series of measurements did not vary mor than 0.01', which is equal in detail to the projected results.

The accuracy of the navigation receivers (and the satellite system receivers) can be described by a composite index based on the generally accepted position root-mean-square error. The stability of this parameter for the entire system does not mean that its value is constant for different satellite systems. See Table 1. In addition, position root-mean-square error was determined relative to the entire range of satellite culminations (7 deg to 70 deg) permitted by the equipment. According to references 1, 3 and 6, for older receivers there is a close dependence between error M and a satellite's angle of culmination. The correlation between position error and satellite culmination angle was investigated using the collected data as a base. The observations were divided into 12 culmination angle ranges, with each range encompassing seven degrees. The calculations take into account not only the positions designated by the equipment as correct (in the 7 deg to 70 deg culmination angle range) but also those positions outside this range. The achieved values are presented in Table 2 and in Figure 1.

Table 1. Position Root-Mean-Square Error

	(1) Zbiór danych	(2) M (m)
(1)	Całość danych	143
(3)	Zima	88
(4)	Wiosna	145
(5)	Lato	193
(6)	Jesień	154
(7)	Noc	143
(8)	Dzień	140
(9)	Satelita 200	179
(10)	Satelita 190	188
(11)	Satelita 140	140
(12)	Satelita 480	112
	Satelita 130	113

Key:

1. Data set
2. Meters
3. Total data
4. Winter
5. Spring
6. Summer
7. Fall
8. Night
9. Day
10. Satellite 200
11. Satellite 190
12. Satellite 140
13. Satellite 480
14. Satellite 130

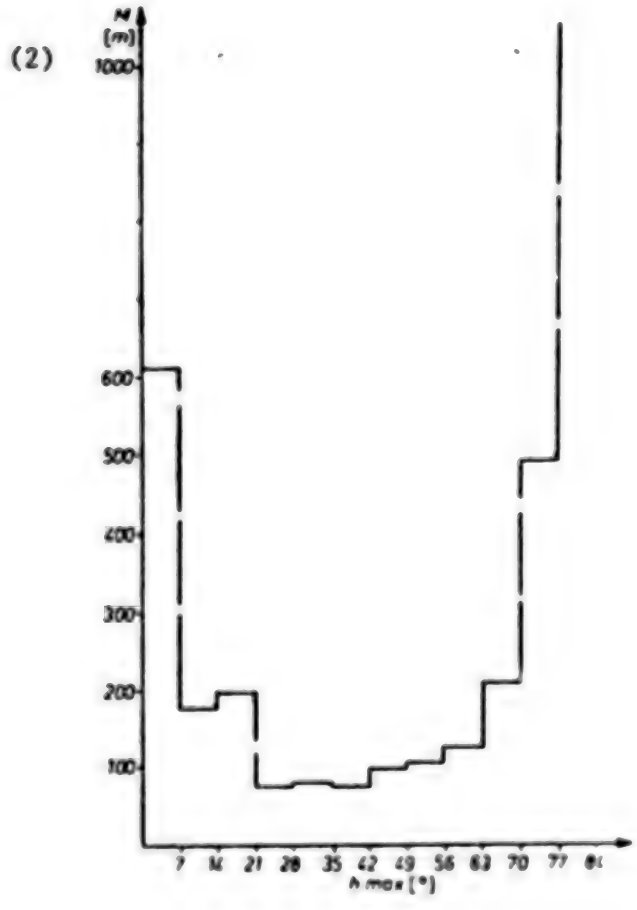
Table 2. Position Error as a Function of Satellite Culmination Angle (Total Measurements)

(1)

Kąt kulminacji	1—6	7—13	14—20	21—27	28—34	35—41	42—48	49—55	56—62	63—70	71—80	81—90
(2) M (m)	414,5	174,7	197,9	78,4	77,2	77,5	98,2	105,4	123,0	200,1	496,8	1854,0

Key:

1. Angle of culmination
2. Meters



n (2)

Figure 1. Plot of Position Error as a Function of Satellite Culmination Angle

Key:

1. Angle of culmination in degrees
2. Meters

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11899
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POLAND

ADVANCES IN OPTOTELECOMMUNICATIONS ENGINEERING

Warsaw TRYBUNA LUDU in Polish 25 Jul 85 p 5

[Article by Ryszard Wolak: "New Fiberoptic Communication Lines; Cooperation With the CEMA Countries"]

[Text] Lublin's OTO [Center for Optotelecommunications Technology], which was formed at the end of 1983, is expanding its activities based on the technology and prototypes of fiberoptics--multilayer conductors of quartz glass having diameters measuring tenths of millimeters that are used in telecommunications and in other areas. The technology and prototypes were developed at the UMCS [Marie Curie-Sklodowska University] Department of Physical Chemistry.

Since its founding, the Lublin center has devoted its time to mastering fiberoptic technology on an industrial scale, and to thoroughly testing fiberoptic production machinery and equipment, which are not even prototypes or models, that are being built in Poland for the first time, including those being built in Lublin's Truck Factory.

Recently fiberoptic conductors were tested at specialized firms in France and Great Britain. The test results confirm their excellent quality and technical characteristics, meeting world-class requirements for this type product, creating the possibility of exporting them to the Western countries.

The first Polish fiberoptic cables have already been delivered to the mining industry, for whom Lublin Polytechnic is building an experimental line to test the movements of a formation. Currently cables are being produced for the railroad for the installation of a test communication line in Warsaw and to monitor operations at the modern Lublin-Tatary marshalling station.

A 120-channel cable for a fiberoptic telephone line in Poznan is also being built, which will be the third one of its type after Lublin and Lodz. The Lodz fiberoptic telephone network is supposed to be expanded this year.

The research and achievements of Lublin's OTO and of UMCS's independent Fiberoptics Technology Laboratory, which is OTO's main scientific facility, are the object of much interest in the CEMA countries. For example, the cooperation between the Combine for Light Sources and Quartz in Sliven, Bulgaria, and Poland is quite advanced. Poland uses Bulgarian-produced quartz

tubing from which optical fibres are drawn. Poland also utilizes Bulgaria's well equipped measurements laboratory to investigate fibre parameters. In the exchange of specialists, the Bulgarians have access to well verified solutions for technical problems that are applied at the Lublin plant.

Other socialist countries also are anxious to buy Polish fiberoptics.

11899
CSO: 5500/3032

ARGENTINA

REQUIREMENTS FOR INFORMATICS TECHNOLOGICAL DEVELOPMENT DEBATED

Resolution 44 Discussed

Buenos Aires MERCADO in Spanish 26 Sep 85 pp 75-76

[Text] Almost 50 firms ultimately entered bids under Resolution 44. As we know, this is the informatics section of a program to spur the electronics industry in fields such as telecommunications and industrial electronics. There are those who say that the resolution was issued too hastily and did not give companies enough time to prepare. But government circles regard informatics as a key, priority field, inasmuch as its development has ripple effects on almost all other activities. According to the undersecretary of informatics and development, Carlos Maria Correa, "informatics poses serious problems for the developing countries. Argentina wasted extremely valuable time for developing it, and it cannot now ignore the technological revolution that it entails."

Resolution 44 is divided into 8 segments of activity. Its aim is to meet national requirements for technological and industrial development in the informatics sector as far as small hardware and the respective peripherals are concerned. The first three segments, A, B and C, include single-user and multi-user equipment and home microcomputers, and the last, H, comprises teleinformatic systems. In between are peripherals, applied systems, small and medium-sized companies and miscellaneous terminals.

Above and beyond the manufacture of equipment and even the provision of "turnkey" systems, one of the main points is technology transfer and, consequently, independent developments. One of the ways to accomplish this is unquestionably to encourage capital formation, albeit with a majority of domestic money. Not all of the major companies operating in Argentina regarded the incentives as sufficient, for example, IBM, Texas Instruments, NCR and Hewlett Packard, among others.

According to experts in the field, however, Resolution 44 is not the final word. The promotional policies that the provinces may offer could also make local production advantageous. At least one of the major companies that did not participate under Resolution 44 is reportedly already involved in such negotiations.

According to the most conservative estimates, total project investment is put at around $130 million, but the Undersecretariat of Informatics and Development is toying with a figure of some $180 million. Between $80 and $100 million would be needed for the first stage of setting up the plants around the country. Fulfilling the bidding conditions was no easy task, and according to the head man at one of the competing firms, it took at least 10,000 man-hours of highly skilled work just to submit the background information.

Not everyone is happy, of course, with Resolution 44. There has been more than one argument about its timing and, above all, about its leading to what is today being called the "reserved market," a new term for a longstanding problem. The fact is that prospects are different for importers; for the local manufacturers who import some parts (including the companies that could compete with the help of tariffs), and for those want protection.

Few are totally opposed to the resolution. A good many agree with its objectives but for the most part disagree when it comes to the means of achieving them. There is also agreement that a computer industry needs protection. "In a totally open market there are not enough incentives for local industry. Moreover, in an expensive country like Argentina it does not make much sense to develop an industry that does not have a comparative advantage," asserts Jose Pedro Pagano, the head of Texas Instruments, whose main concern about the resolution is that it might prompt overprotection, which would inevitably lead to a reserved market.

According to him, one of the reasons for promoting the electronics industry here is that the country will not be able to afford the developments that will be made by the next century. And the current communications secretary, Roberto Cobieta, one of the men who has been pushing for a local electronics industry from his post as adviser to the Industry Secretariat, contends that it ought to be promoted only to prevent the gap between us and the countries with state-of-the-art technology from widening. In short, the differences of opinion have to do with "how" the goals are to be reached.

For example, what constitutes reasonable protection? To some, it should not last for more than 5 years or top 50 percent. Such a percentage would level out costs with the country that generates the technology. For example, it would represent the cost differential between a PC in the United States and one in Argentina. Protectionism would start at that point.

Those who have misgivings about Resolution 44 argue, in addition, that the marketplace is better at allocating resources than government is. There is rapid communication between the market and the producer, they assert, and thus the producer always knows what market needs are. Even if we assume that a government official is a sensible resource allocator and is familiar with market requirements, technology changes so rapidly, especially in the computer industry, that obsolescence is a constant threat. How can the government determine or allocate in advance what has to be manufactured? they ask.

Another criticism is that Resolution 44 does not take into account what has already been done so far and would thus distort competition. The bone of contention here would be that the markup would be set by company instead of applied to the entire sector, "which would put those of us who are already manufacturing in the country at an obvious disadvantage," Pagano cautions.

Its supporters simply stress that it is an important step forward, inasmuch as the respective Informatics Law is still before Congress. They admit, however, that it falls short of establishing a national informatics policy, which must encompass, among other things, education, with the required complementary equipment of course.

Once production under Resolution 44 starts up, furthermore, the problem of having a large enough market to recover investments will arise. "We have to start from the premise," it was noted, "that the domestic market is too small to justify the investments that the industry demands. Therefore, new markets will have to be opened, which calls for a stable and consistent export policy."

Brazilian Policy

Buenos Aires MERCADO in Spanish 26 Sep 85 p 76

[Text] The Case of Brazil

The program that Brazil's then military government implemented 8 years ago was clearly "protectionist" because for some segments it promoted domestic capital exclusively and a reserved market in which certain imports were banned. Some observers feel that Resolution 44 is similar, but the government is underscoring the differences rather than the similarities.

According to THE WALL STREET JOURNAL, the Brazilian computer industry that resulted from this protectionist policy has developed unevenly and inadequately. The local version of Silicon Valley was built 2 hours from Sao Paolo, but its products cost three times as much as their American counterparts and, moreover, are of poor quality. They are of such low quality, the paper emphasizes, that they have spawned "a vast black market ranging from smuggled microcomponents to personal computers."

Brazil's informatics policy, which has been charted until 1992, has posted some telling results, however: 140 electronics firms, 90,000 people at work in the industry and a new generation of engineers and technicians.

THE WALL STREET JOURNAL states, moreover, that the strategy of the Brazilian military government was to create a computer industry similar to Japan's. They obviously did not take into account, however, that Japan started out with heavy consumption, "a mountain of money" and a substantial government budget for research and development. Brazil, whose foreign debt is the largest in the Third World, lacks that "fundamental resource" of Japan.

Technology Transfer

Buenos Aires MERCADO in Spanish 26 Sep 85 pp 77-79

[Text] Ever since it was on the drawing board, Resolution 44 has received "strong political support" from the chamber that represents electronics firms, CADIE [Electronics Industry Chamber]. When the bidding envelopes were opened, the names of several major foreign firms appeared, as they and Argentine companies have responded to the government's proposal with a loud "Yes."

To inquire about this backing MERCADO spoke with engineers Horacio Martinez Quintana and Roberto Melo from Bull; Liana Lew, the special projects manager for the TTI-Bradas-Burroughs consortium; Carlos Maria Molina from Micro Sistemas, and Jorge Chorny, an engineer with AutoRede.

Before hearing their views, we should look into the proposals submitted by their firms.

Bull took part in the official bidding along with Jose Cartellone Construcciones, a firm that handles large construction projects; Noblex, which manufactures television sets and household appliances, and NL, a farm sector company. The consortium will set up shop in Santa Fe and produce single- and multiuser microprocessors and supply systems engineering.

Idat, S.A. is made up of Burroughs, a subsidiary of the U.S. firm that markets computer systems, and Bridas, which is active in oil. It has proposed manufacturing multiuser-multitask and teleinformatics systems in Cruz del Eje (Cordoba).

Micro Sistemas, which has its headquarters in Cordoba and an affiliate in Silicon Valley, has joined forces with Olivetti, ATT and SISTECO to manufacture a single-user microcomputer and specific terminals in Cordoba.

AutoRede is a partnership of the Argentine company Autotrol and its Brazilian counterpart Digirede and intends to produce point-of-sale and bank terminals in Santa Fe.

Opinions

These are four of the business groups that back the government's plan to develop an informatics industry and that have submitted major projects. Comprising about a dozen firms, they also represent a school of thought within the electronics industry that might even some day establish an partnership or a business chamber.

"The government's program," they say in reference to Resolution 44, "seeks total integration for the manufacture of the end product, not the establishment of assembly shops."

They feel that this is the first step in spurring the creation and growth of a new informatics industry that can over time achieve its own technological development.

Other countries, they recall, such as Mexico, Israel and India, have achieved some degree of independent development. General De Gaulle, for example, gave a strong push to the French computer industry in the 1960's when computers were needed to run the French satellite system.

From the standpoint of this group, the partnership of domestic companies with highly experienced and competitive foreign firms guarantees genuine technology transfer.

In any event, when discussing the problem of so-called "state-of-the-art" technology (the chips and basic computer components), they would rather talk about how helpful Resolution 44 is in making use of microsystems, in "imbuing Argentine industry with technology efficiency," not in manufacturing them domestically. Of course, if the industry develops and capital formation commences, these firms could be producing microsystems by the late 1990's.

Resolution 44 has prompted several "marriages" between domestic and foreign firms whose courtship began before the decree. Technological mastery is thus on the horizon. Some of them summarize it as follows: "Each of our companies is capable of manufacturing a very good piece of equipment with its own resources, with its own highly skilled personnel. The problem, however, is not to produce a magnificent one to order but to master the production technology and to manufacture equipment that is always of the same quality."

In this connection, the members of the group say that the resolution should spur the development of the rest of the industry and, within this framework, promote electronics as "a means of achieving higher productivity and efficiency." In this instance, mastery of state-of-the-art technology means utilizing microsystems, not manufacturing them.

"We need to learn about and bring in technology," they add. Hence, partnership with foreign firms that have very high quality standards and that will therefore be very demanding of those producing the equipment in Argentina, could help them make this leap. In some cases, such as Idat, the initial hardware to be manufactured in our country is the XE 550, which was recently introduced in the United States and Europe and has now been launched in Argentina by Burroughs.

Moreover, they indicate, there is a tendency to identify informatics solely with general-use or business management hardware; "the public identifies the program with the creation of a computer industry, when it actually goes beyond that." What "beyond" means is expanding the framework of microelectronics applications to issues that are "more vital than just management." In this regard, the automation of industry and services is going to demand a tailored application of hardware and software.

The companies that sell equipment on the Argentine market do not currently deal in complete systems. "For the most part they sell the hardware but do not install the proper software." Resolution 44, our sources feel, brings together the experienced firms that know which software is most appropriate with the ones that put out quality hardware. As one of them pointed out, you

cannot say that someone possesses a technology because he has files with blueprints and a large inventory of "tools."

The Requirements

"It is not enough to have sophisticated hardware to undertake certain tasks; the brains with the know-how are not enough either. You need this and management, the know-how to run the company," they say. Without these ingredients any project could fail.

The big challenge is to establish links for a smooth and orderly transfer of technology, because the transfer is not just at "the product level" but at the "production level."

They feel, moreover, that Resolution 44 is aimed at both the domestic market and at exports to Latin American countries. They caution, however, that the tendency is to say that the domestic market is too small (compared with Brazil, for example) for so many computer firms. "This argument is repeated too often for it to be mere chance. We agree on the need to export, but exporting demands high quality, a whole apprenticeship period." They recall that the Southeast Asian countries that have become major sellers of electronic and computer equipment, according to statistics, originally promoted their companies for the domestic market; furthermore, a comparison of those countries and ours shows that the purchasing power there is less than it is in Argentina. We first have to develop the industry here at home, they say, because "you cannot branch out before having roots." The export stage will thus come afterwards, as a natural result of producing large amounts of high quality goods at prices that are competitive on the world market. They cite this example. Our country's light industry produces parts for 30 percent less than Japan does; a policy that has been pursued for over three decades has thus now yielded positive results even in competition with an industrial giant like Japan.

In the view of executives at Sisteco, the representative of Wang products, Resolution 44 is "one of the most important steps that the country is taking to end its stagnation," says special projects manager Mario Gosende, adding that it is "a government-intervention measure with free-market objectives, as opposed to the current free market that has had interventionist results." Sisteco, a firm belonging to the Juncal group, wants to be active in three segments: single- and multiuser microcomputers and specific terminals. "At present," Gosende continues, "when someone buys a computer, he becomes a captive customer of that brand for future growth and maintenance, with the resulting cost implications. The resolution calls for equipment and peripheral compatibility, which will mean that prices will be competitive for the entire life of the computer system."

He feels that Resolution 44 strikes an optimum balance for "bargaining with the dependency" that Argentina currently has on today's world. "As the president of Chrysler told the graduating class of MIT, 'We are again a colony of Japan, because we are selling them our natural resources, and they are selling us technology.' Thus, we have to start generating technology to improve our position for bargaining with our dependency," he concluded.

Correo Rules Out Policy Changes

Buenos Aires MERCADO in Spanish 26 Sep 85 p 79

[Interview with Informatics and Development Undersecretary Carlos Maria Correa; date and place not specified]

[Text] In this conversation with MERCADO, Informatics and Development Undersecretary Carlos Maria Correa answered some of the questions posed by Resolution 44 and ruled out any sort of change in official policy as a result of Nestor Farias Bouvier taking over in the Industry Secretariat.

MERCADO: Briefly, what is Resolution 44?

Correa: It is a call for bids and grants incentives for industrial promotion at various spots around the country to companies that would like to manufacture small-scale computer hardware and peripherals.

The resolution is an outgrowth of the existing industrial promotion law and sets a series of conditions for benefit eligibility.

MERCADO: Does it create a reserved market?

Correa: It does not create any sort of reserved market. It is, however, part of the tariff reform package that will afford additional protection to any companies that are formed, but this does not mean a reserved market like Brazil's.

MERCADO: What are the differences?

Correa: Brazil has a nontariff ban on imports, as only entirely domestic firms can operate in certain market segments. In our case there is no ban on imports, just a protective tariff. Secondly, we have provided for the formation of joint foreign-domestic ventures with majority Argentine capital.

MERCADO: How much do you think the investments will come to?

Correa: About $100 million over the first 5 years. This is what we can gather from the bids that were submitted, but we will have to pinpoint the amount once the selection has been made.

MERCADO: Might there be changes now that Farias Bouvier has taken over at the Industry Secretariat?

Correa: No, no. There will be continuity; I can tell you that categorically. There is total agreement with the Economy Ministry on policy, and there are not going to be changes.

MERCADO: What are your office's next steps going to be?

Correa: To complete our evaluation of the bids and award the incentives to the companies by signing the respective agreements. At that point the firms will start making their investments.

Domestic Industry Prospects Reviewed

Buenos Aires MERCADO in Spanish 26 Sep 85 p 80

[Commentary by Domingo A. Trassens: "The Outlook for Argentina"]

[Text] Now that the industrial investments are about to be assigned under Resolution 44, we can turn our eyes to the issue underlying this development. In other words, our objective today is to look into the prospects for Argentina's computer industry.

For years, specialized circles have been posing and reposing this major question of ours: What should our model be? Analyzing the successive developments that resulted from the decisions in question entails a short look at history. Briefly, we should call to mind the developments that Fate Electronica brought out, such as its Cifra Sistema K10 and subsequent equipment. For a time in the 1970's the press carried a great deal of advertising that showed a machine with a large keyboard, a printing mechanism with a broad carriage, and a front form-feeder. New models followed, and then the imports put a sudden end to them all. Another forerunner was the Microsistemas data card equipment. As in the previous case, new machines followed, but luckily this series was not cut short by the massive influx of imported computers in the early 1980's. Among the pieces of equipment that are no longer with us we cannot overlook the Primma 201, the Apple II-compatible personal computer that Sisteco S.A. marketed in 1982 and 1983. All of this is just part of what was done and has mainly to do with computer development projects. The informatics industry does not end there, however, and to be complete we ought to bear in mind the intense industrial and export activity that IBM Argentina's plant in Martinez is engaged in. It is putting out various models of printers for IBM mainframes and the brand-new IBM 3480 magnetic tape subsystem, which is being exported to Japan, among other countries. The above is complemented by provincial plans for industrial investment, such as the recent case of San Luis, where at least three firms have been accorded special tax breaks and are setting up operations for the manufacture of home and personal computers.

In view of all this, let us take a quick look at Article 1 of Resolution 44, which reads: "Call for public bids" for the installation, start-up and operation of industrial plants for the manufacture of multiuser-multistation, single-user professional, personal and home systems, miscellaneous peripheral equipment, integrators of specific microcomputer systems and of large systems also for specific purposes, etc. This wording shows that we are looking at a far-reaching program that could become the hub of an integration that has so far been lacking. Proof of this is the more than 40 bids that have been submitted, reflecting major interest among companies, cooperation between domestic and foreign capital, investments of around $180 million and valuable inputs of pacesetting technology. We can point to several examples. The Bridas-III group, in partnership with Burroughs, plans to produce a multiuser

computer (the XE 550), which is based on the new standards that the Unix System is establishing and which the American firms will be putting out from a Belgian plant this October. Moreover, Bull heads another joint venture along with Noblex and Cartellone for the manufacture of various models. A third group, Microsistemas and ATT-Olivetti, intends to manufacture a desk computer and peripherals. Another example is Sisteco-Wang, which plans to produce domestically one of the most popular professional computers on our local market.

But what really is the outlook for our computer industry? Are we charting a stable course? And is it consistent with our technical and economic resources? The issue is a complex one as there are numerous interacting variables. Existing plant and projections for at least the next 5 years are involved. And these projections, in turn, are influenced by another variable: the economy (the current recession, a possible recovery, the obsolescence of existing plant and its potential replacement, and the extension of computers to fields in which they still play a tiny role, such as medicine, law, education and farming).

After reviewing the major variables, we find many others that compound the aforementioned complexity. Some of them are: technology, specialized manpower and the local integration of parts. What this tells us is that the computer industry requires local or overseas training for project technicians and foremen. Linked to this variable is research, which has so far experienced many delays. After all these matters have been settled, we must take another look at the market, at which point a new question arises: Can the local market absorb so much effort and investment? Our answer is no. Therefore, if we want an Argentine computer industry, we must give it sufficient capacity to continue the steps that have already been taken in exports. In this way, aware of our limitations and willing to manufacture quality products and to compete on overseas markets, we can broaden our horizons on the basis of a stable and sound industry.

8743
CSO: 5500/2002

BROADCASTING CHIEF DISCUSSES ZNS' POLICY ON POLITICS, PARTIES

Nassau THE TRIBUNE in English 25 Sep 85 p 4

[Article by Anthony Forbes]

[Text]

WHILE ZNS should always cover the Opposition and the country should hear the other side of the argument fairly and accurately, the Broadcasting Corporation should not be manoeuvred out of line by vocal and militant interest groups, Chairman and Holy Cross MP Charles Carter said last week.

Addressing Bahamian Forum on "The Development of Broadcasting" last Wednesday evening, Mr Carter called for a change in the Broadcast Act to create a broadcast authority with the power to licence radio and television facilities.

He also urged the organization of an authority that regulates broadcasting in the interest of the public and the development of a strict code of ethics that protects and promotes the Bahamian culture and regulates commercialism.

In addition, Mr Carter called for regulation that deals with modern electronics like VTR's and satellites and provides secure funding for the Broadcasting Corporation of the Bahamas.

"Presently ZNS is on a course that has the triple objectives of assisting the developmental process, expansion to serve all the communities in the Bahamas and financial autonomy," the Broadcasting Chairman told Forum.

Mr Carter said that in 1977 when television programming began in the Bahamas, ZNS competed only with Florida, but with the growing number of satellite dishes, ZNS is competing with the whole of North America for its audience.

"It is too early to measure the effect of satellites on our community but it has already changed our viewing habits," Mr Carter said. "The ubiquitous VTR machine has made each home in the Bahamas its own centre of entertainment. Satellites have turned every viewer into a programme director."

"The modern Bahamian ought then to be the most informed individual this country can produce. ZNS' hope for the future is to gain his attention by good local programming and a strong tradition for accurate, responsible reporting. Otherwise, there would be no one to inform, educate or entertain when ZNS is turned on," he added.

Mr Carter said it is interesting that the Progressive Liberal Party that railed greatly against the fact that the Opposition party had no access to Broadcasting in the '50s up to the late '60s, has itself been accused of the same practices.

"The fact is, though, the former government news never knew how to utilize the media intelligently," Mr Carter said. "When it was used to inform the country as to what was taking place, to my recollection, there was nothing produced that helped or hindered progress in the country."

Mr Carter said that in his opinion, neither the partisan control of Broadcasting nor the ability to perform well on radio and television guarantees electoral sucess or vice-versa.

"I am not saying that broadcasting does not shape attitudes and influence political socialization," he said. "It does, but there is little agreement on the influence that broadcasting has on the electorate. It is one of a number of factors in one's life that shapes thoughts, opinions and attitudes."

Mr Carter said that the Corporation's legally defined mission to educate, inform and entertain the Bahamas is a national commitment and as a resource of information, it plays a substantial role in the development of society.

"There is a number of people in this country who believe that ZNS is a puppet for the Government; it goes even further, by way of a recent publication, there is a number of PLP's who believes that ZNS acts only in the interest of certain select people in government," he said.

Mr Carter told Forum: "Those perceptions bother me as a former broadcaster and current Chairman of the Corporation."

He said that the role of broadcasting is simply to say accurately and truthfully what the Government is doing and not what they ought to be doing.

"While ZNS should reflect various shades of opinions, it must always be borne in mind that those responsible for national decision-making, and for the consequences of those decisions, have to be given every opportunity to be understood and evaluated," he said.

"Further, while ZNS should always cover the Opposition, and the country should hear the other side of the argument fairly and accurately, the Corporation should not be manoeuvred out of line by vocal and militant interest groups," he added.

Mr Carter said that the Broadcasting Act has been amended a number of times during the late '60s and early '70s, to upgrade the business potential of the Corporation and to reflect more liberal views concerning political broadcasts.

He said that the Act must reflect certain existing practices relating to political announcements and should establish provisions for private broadcast institutions.

"While I appreciate the free communication of thought and opinion is one of the most valuable rights we have in this and other democratic societies, new legislation must seek to protect broadcasting from the control of purely commercial or political interests," the Chairman said.

Incidentally, Mr Carter said that he believes ZNS will be getting a lot more attention when the House of Assembly reopens, and noted that no opposition and seldom most governments in the Westminster model are satisfied about radio and press coverage.

"That has always been the claim of Bahamian opposition parties and, perhaps, will always be one way of making news," he said. "The FNM has a select committee to look into privatising broadcasting which I do not agree with in principle.

"How super it would be to have a statutory commitment to political balance. That doesn't happen in the real world, however, and it probably won't happen in the next world," Mr Carter said.

"The facts are that the Government is the Government and almost daily, and by definition will make news," he said.

"Since information is a political resource, and radio and television constitute the primary source of political information, it follows that the organization and control of broadcasting are subjects that feature prominently on the political agenda," Mr Carter declared.

CSO: 3298/049

SOCIAL COMMUNICATIONS COMMITTEE INSTALLED

PY300204 Brasilia Domestic Service in Portuguese 2200 GMT 29 Oct 85

[Text] President Jose Sarney today installed the advisory committee of the Presidential Press and Dissemination Secretariat. The committee, which will be in charge of formulating executive branch policy in the area of social communications, is made up of the professionals of the Presidential Press and Dissemination Secretariat, of the presidents of the BRAZILIAN NEWS AGENCY and Radiobras [Brazilian Radiobroadcasting Company], and of 30 representatives of the Brazilian mass media. Planalto Palace Press Secretary Fernando Cesar Mesquita, the advisory committee's president, has said that the objective of the committee is to broaden the dialogue with society through the mass media. Mesquita explained that the committee will have neither regulatory nor legislative powers. However, it will have political powers.

[Begin Mesquita recording] The recommendations by the advisory committee, which was installed by the president, will be given due consideration. If the president approves the committee's recommendations, they will be implemented. [end recording]

Five subcommittees were created today during the committee's first meeting. The subcommittees will formulate proposals that will be submitted to the advisory committee. Among these subcommittees are those dealing with legal matters and with movie, radio, and television issues. (Roberto Duayleve), of the (DPZ) [expansion unknown], outlined the role that advertising and propaganda agencies will play within the committee.

[Begin (Duayleve) recording] The agencies are cooperating with several subcommittees, particularly with the advertising and propaganda subcommittee. Therefore, we will put forth our proposals at those submittees and at the advisory committee. [end recording]

(Natalio Dantas), president of the National Journalists Federation, has said that the creation of this advisory committee is the first step to the democratization of social communications in Brazil. However, (Dantas) believes the dialogue between the government and the mass media must be broadened.

[Begin (Dantas) recording] The dialogue must be broadened through other initiatives in which not only the mass media but all sectors of society are represented. This can be achieved through the national social communications council, the creation of which was suggested to President Tancredo Neves by the media. Today I asked President Jose Sarney to hold a meeting to discuss the issue. [end recording]

The advisory committee's next meeting will be held on 26 November.

/8309
CSO: 5500/2003

GLEANER CRITICIZES SEAGA'S POLICY ON MEDIA

Kingston THE SUNDAY GLEANER in English 29 Sep 85 p 10

[Editorial: "Media Policy"]

[Text]

The Government's Media Policy announced by Prime Minister Seaga to Parliament and the Nation on September 4 falls woefully short of the Prime Minister's and the JLP's stated intent as set out in the Party's manifesto of 1980. That manifesto of which Mr. Seaga was the principal architect had correctly recognised that Jamaicans have "always exhibited a strong preference for privately owned media, and as a consequence attached more credibility to the views expressed in the privately owhed media than those of the publicly owned media which they consider heavily biased in favour of government policies and programmes." That manifesto also saw political control of views and operations as one of the three main problem areas of the JBC. Indeed, it went further. It said that the JLP "does not favour public ownership or control... of Radio Jamaica."

As the Private Sector Organisation of Jamaica (PSOJ) said in its statement which appeared in the **Gleaner** on Friday, 'at the end of the Prime Minister's recent speech (announcing the policy) the government was left owning all or a portion of eight broadcasting entities as it did previously. The government continues to own all of JBC, a part of the new entity to do the morning broadcast on TV, a part of the entity to broadcast on JBC FM, a part of the regional entities to broadcaast over JBC's regional stations and a part of RJR AM and RJR FM.'

A media policy which allows a government, any government, to continue to own, fully of partially, or to control the island's broadcaasting facilities in the way the present policy does is a major reversal of the JLP's policy. This is far from satisfactory, and indeed leaves those who are given leases at the mercy of a government which grants the licences, owns the facilities and has control over the news. In effect the government retains control over the JBC whilst presenting the people of Jamaica with a charade of a media policy which it claims will allow the private sector to participate in the ownership and operation of these services.

The policy gives the lie to Mr. Seaga's own statement

made in an interview published in the September/October issue of CLASS, a New York Black magazine, and reprinted in the **Gleaner**, that "we want to free the country from the extent to which the political directorate has manipulated the public broadcast media," and that he and the JLP had given "a solemn undertaking to wipe out those manipulations by putting them under non-political, impartial bodies."

The media policy, if it is allowed to remain in its present form, leaves the JBC open to the same manipulations from which Mr. Seaga in 1980 vowed to free the country. And the history of the JBC is replete with instances of such manipulations by the two political parties which have formed the government of this country. Neither party can deny that whilst it formed the government it has used the station to serve its own propaganda interests.

We would remind the Prime Minister also of his own statement on divestment delivered from Jamaica House in December 1980 that divestment "will include commercial type operations as well as media, including RJR." We wonder what has happened since those heady days immediately after the November elections, when Mr. Seaga was still smarting from the effects of the misdeeds of the PNP's manipulation of the station, to have led to a change of heart.

Control of the electronic media by the Government, cannot be in the best interest of the country; cannot serve democracy and free and varied expression of views. It is patently at variance with the Government's stated commitment to the free enterprise system which it so loudly proclaims.

We must ask how it is that the Prime Minister has apparently failed to see that the government's ownership and control of JBC TV, AM/FM radio, three regional radio stations and its retention of its 25.1 per cent shareholding kn RJR cannot be in the public interest.

Is this what the Jamaican people are to expect from a champion of free enterprise and free expression? We wonder!

CSO: 3298/059

COMMUNICATIONS PROJECTS WITH SUDAN

Cairo THE EGYPTIAN GAZETTE in English 8 Oct 85 p 2

[Text] A PROTOCOL for technical cooperation in the field of transport, telecommunication and maritime transport was concluded yesterday between Egypt and the Sudan. The protocol was signed by the Minister of Transport and telecommunication, Mr. Soliman Metwali, and his Sudanese counterpart, Mr. Peter Gathouth.

In the field of telecommunication, Mr. Metwali said that the two sides agreed on completing the replacement and renovation process in the links between Khartoum and Port Sudan, and between Wadi Halfa and Aswan in order to allow the operation of the largest number of circuits between the two countries.

The Minister added that the joint projects between the two countries include the implementation of the microwave project between Cairo and Aswan which will later be extended to Abu Simbel, then to Atbara with the same technical specifications. The final capacity of this project will be 960 channels, and TV channels, and will be finished within 24 months.

The protocol includes the establishment of an axis cable between Bernis and Port Sudan on the Red Sea Coast with a capacity of 960 channels. This cable, which will be finished in 14 months, will cost 10 million dollars.

As for roads, the protocol also includes the completion of Aswan-Wadi Halfa road with an extension of 100 kilometres within the Sudanese borders. The stretch of road from Aswan to Wadi Halfa will be finished this year.

CSO: 5500/4601

BRIEFS

NEW TRANSMITTERS--Two new FM transmitters were commissioned in Yazd today. The Central News Unit reports that because of the efforts of the employees of the unit for expanding the FM network of the Voice and Vision of the Islamic Republic, and the repair and maintenance unit of television and FM transmitters in Yazd, the people of Yazd and the surrounding areas can now listen to the first program on FM 90.7 MH frequency, and the Voice of Majlis session, carried on the first channel of the Vision of the Islamic Republic, Yazd Center, on FM 97.1 MH frequency. Each transmitter is 1 kilowatt in power. [Text] [Tehran Domestic Service in Persian 1630 GMT 24 Oct 85 LD]

/12913
CSO: 5500/4705

PROBLEMS FACED IN DEVELOPING TELEVISION SERVICE, PROGRAMS

HK300518 Hong Kong AFP in English 0211 GMT 30 Oct 85

[Article by Kedar Man Singh]

[Text] Matmandu, 30 Oct (AFP)--The authorities in Nepal, where Indian television dominates the airwaves, are facing language problems and a tight budget in their first attempts to develop their own programming.

The Neapl Television Project (NTP) was started up with a half-watt transmitter and made its debut in early September with coverage of King Birendra's state visit to Australia.

Unfortunately, the transmission was in ultra-high frequency (UHF) and the majority of residents with TV sets in this landlocked mountain kingdom use very high frequency (VHF) so they could not watch.

But the Nepalese are planning to convert their station to VHF before expanding their current one-hour trial service to two hours of programming on 30 December, an official here said.

Nepal has only about 20,000 television sets, according to estimates, with at least half in the Katmandu valley and the others in the lowland tropical region bordering India's Bihar and Uttar Pradesh states.

The main attraction is Indian broadcasts, including Hindi and English films, educational programs and news. Reception is easy in the lowlands and Katmandu viewers can tune in with power boosters costing no more than 80 dollars each.

The first Nepalese programs have been somewhat more mundane--mainly documentaries on topics such as soil erosion or places of interest. Foreign programming is being considered but no agreements have been signed.

Even when a 100 kilowatt VHF transmitter is installed, the project is not expected to extend much beyond the capital. Experts said the lowland people prefer Hindi to the official language Nepali, and thus are not likely to switch off the Indian fare.

But an NTP spokesman said transmitters would gradually be added outside Katmandu to reach the entire country where the rugged terrain and a lack of modern surface transportation has made communication difficult.

The state has allocated only three [word indistinct] rupees (171,000 dollars) to the project in its current budget, but the NTP said it was counting on government-guaranteed loans from local banks.

A senior official said that the project also hopes to raise advertising money from producers of a wide range of Indian goods which fill the market here.

The NTP has received technical cooperation from the Katmandu-based World View International Foundation, which has trained 36 people. The Nepalese are also seeking assistance from countries such as Japan, France, the United States and Canada.

But Japan seems more interested in providing financial assistance for the development and improvement of radio services which currently go to only 55 percent of the country, sources here said.

The Japanese have provided help in the construction of two modern studios and installation of two 100 kilowatt transmitters, one in Katmandu and another in the Pokhara valley, 225 kilometers (125 miles) to the west.

The French firm Sofratev, which signed an agreement with the Nepalese Communications Ministry in 1982, has prepared a detailed feasibility report for full-fledged television services here.

But the French are speaking about soft loan assistance with 20 percent of the financing in grants, while the Nepalese authorities are hoping to obtain outright grants from the Japanese.

/9738
CSO: 5500/4706

REGIONAL CONFERENCE CALLS FOR TRAINING OF EXPERTS

Blantyre DAILY TIMES in English 2 Oct 85 pp 1, 3

[Text]

HIGHLY trained and competent personnel at every level of administrative hierarchy was important in the operation and maintenance of the telecommunication services, a senior official in the Ministry of Transport and Communication has said.

The official said this when he opened the 19th annual Regional Telecommunications Conference of the Eastern and Southern Africa Sub-Region at Kwacha International Conference Centre in Blantyre yesterday.

The two-week conference has grouped together representatives from the Organisation of African Unity (OAU), Pan-African Telecommunications Union, International Telecommunications Union, Preferential Trade Area and other organisations.

The delegates have come from Botswana, the Comoros, Djibouti, Ethiopia, Kenya, Lesotho, Madagascar, Sudan, Swaziland, Mauritius, Mozambique, Seychelles, Somalia, Tanzania, Uganda, Zambia, the Reunion, Zimbabwe and host Malawi.

Opening the conference, the official called on the delegates to discuss at length the importance of establishing an efficient operation and maintenance organisation.

He stressed that a highly trained and competent personnel at every level of administrative hierarchy was important in the operation and maintenance of the telecommunication services.

He said that every organisation depended upon investment of resources in terms of materials, money and in particular, manpower to pursue its objectives. The need for highly trained and competent personnel, at all levels, must, of necessity, take a prominent place in the deliberations of this conference, the official emphasised.

The official told the delegates and representatives that Malawi has embarked on vigorous programme of digitalization of its network.

He said that 15 rural digital exchanges with associated digital radio links, would be commissioned by February or March.

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/9274
CSO: 5500/10

BRIEFS

NEW STATION INAUGURATED--In Cuanza Norte on Saturday, Comrade Roberto de Almeida, a candidate member of the Political Bureau and secretary of the Central Committee of the MPLS-Labor Party for ideology, visited the installations of the Cuanza Norte Regional Station on the occasion marking the eighth anniversary of the Angolan national radio and the inauguration of a new 10-kw broadcasting station in that city. [Excerpt] [Luanda Domestic Service in Portuguese 1200 GMT 7 Oct 85 MB]

CSO: 5500/4

RADIO, TV NETWORK EXTENSION PROJECT ANNOUNCED

AB072125 Paris AFP in French 1517 GMT 6 Oct 85

[Text] Libreville, 6 Oct (AFP)--The Gabonese Government has decided to extend and develop its national radio and television broadcasting network to cover the entire country by the end of 1986, it was learned on Sunday from the Ministry of Posts and Telecommunications.

The decision, which was reached on Saturday at a working session presided over by Mr Omar Bongo, the Gabonese head of state, will require a total capital investment of 111.35 billion CFA francs (Fr2.22 billion), of which 66.6 billion CFA francs will be included in the 1986 budget. The capital for this project will be raised through foreign assistance. [passage indistinct] The entire country will be able to receive television transmissions and listen in more easily to the radio to be transmitted on frequency modulation. The rest of the investment capital will be raised from the next 5-year development plan and will aim at developing, indeed, doubling the capacity of the existing network.

The principle adopted by the Gabonese Government is to combine the use of the satellite technique and the Hertzian wave relay system and in order to achieve this, the Ministry of Posts and Telecommunications sources further said Gabon will in the first place use the American satellite INTELSAT "while waiting for the Gabonese domestic radio satellite, within the framework of the Central African subregion."

The current communications network--radio, television, telephone and telex--in Gabon mainly uses the Thomson technique.

/9738
CSO: 5500/11

LIBERIA

BROADCASTING RENOVATION INCREASES RECEPTION

Monrovia NEW LIBERIAN in English 8 Oct 85 p 8

[Text] The building housing the shortwave transmitters of the Liberia Broadcasting System (LBS) in Paynesville here is to be renovated at an estimated cost of $60,000.

Disclosing this in an interview with newsmen yesterday Mr Togba Ngangana, Chairman of the Building Committee of the National Commission for the Rehabilitation of Broadcasting (NCRB) described the building as "deplorable to house sensitive equipment."

Mr Ngangana, who is also Deputy Public Works Minister for Technical Services, said the renovation of the transmitted building could be completed by December.

Minister Ngangana who was on an inspection tour of the building along with some members of the NCRB, said the renovation would include the complete air-conditioning of the transmitter building.

During the inspection tour of the transmitter building, the Co-chairman of NCRB, Assistant Postal Affairs Minister, S. Richelieu Watkins disclosed that the faulty 50 kilowatt shortwave transmitter had been repaired and was now "on test" with good results.

Minister Watkins said the transmitter was "not running at full capacity" due to the lack of certain parts which would be obtained in due course.

He, however, said transmission on the shortwave of LBS was now being received around the country, and added that reports from Gambia, Ivory Coast, Sierra Leone, Guinea and Las Palmas among others, have indicated reception of LBS' shortwave in their respective areas.

Other members of NCRB on the tour included Mr Aston King, Manager of Omega Navigational Station and Chairman of the Engineering and Technical Committee, as well as Mr Isaac Wesley, Chief Engineer at LBS.

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CSO: 5500/8

SWEDISH GRANT FOR TELECOMMUNICATIONS, TRAINING

Maputo NOTICIAS in Portuguese 13 Sep 85 p 1

[Text] The Kingdom of Sweden will grant Mozambique 34 million Swedish kronor for the purchase and installation of an international telecommunications facility in Maputo, one of the main components in the telecommunications development plan. Sweden will also grant 28 million kronor to provide professional training programs in telecommunications.

Rui Lousa, Minister of the Post and Telecommunications, representing the Mozambican government, and Bo Kalfors, Swedish ambassador to Mozambique, signed two agreements concerning these grants yesterday morning in Maputo.

Rui Fernandes, director general of Telecommunications of Mozambique, and Engineer Pedro Figueiredo of the Southern African Transportation and Communications Commission, among other officials, attended the ceremony.

The international telecommunications facility to be installed in Maputo, in addition to being one of the main components in the telecommunications development plan, will provide regional and international communications links.

According to available information, 13 million Swedish kronor was also made available to cover coordination, administrative and control services of the various activities involved in carrying out the project. This is an important program which will have a significant impact in the area of the Southern African Development Coordination Conference, under which Mozambique is coordinating transportation and communications activities.

The second agreement initialed by the governments of Mozambique and the Kingdom of Sweden concerns the implementation of a national professional telecommunications training program. Sweden will make available 28 million Swedish kronor as a grant.

At the signing ceremony for the two agreements, Minister Lousa said that Mozambique will be able to develop and improve the telecommunications system, a project of importance to our region, since it will be possible to establish links with Southern African countries and other nations.

Minister Lousa stated that the professional training program is an important factor in the execution of the project. It will familiarize Mozambican

personnel with the telecommunications system to be installed in Mozambique under the regional development plan.

"Cooperative relations between Mozambique and the Kingdom of Sweden have reached an extremely positive level," said the Minister.

Mr Bo Kalfors, Swedish ambassador to Maputo, added that the Kingdom of Sweden is developing close cooperative relations with Mozambique, saying that Swedish cooperation is designed to promote regional Southern African projects.

8844
CSO: 5500/2

SOUTH AFRICA

BRIEFS

TV 4 AUDIENCES--TV4 has far more multiracial audience than TV1, the latest All Media Products Survey (Amps) Broadcast Media Survey has established. The other major finding is that viewership figures for the channels vary vastly on different days. The survey is based on average quarter-of-an-hour audiences and required respondents to enter their viewing patterns in a diary supplied to them during the research period of April to June 1985. The survey shows that after 9.30 pm, white viewers are divided almost equally between TV1 and TV4 while black viewers tended to remain with TV4--which uses the same channel as TV2/3. Programme content greatly contributed to audience composition and on average it appeared TV4 gained substantially more viewers on Monday, Wednesdays and Fridays when the Afrikaans half of TV1 was broadcast in the second half of the evening. [Text] [Johannesburg BUSINESS DAY in English 8 Oct 85 p 2]

CSO: 5500/7

ZAIRE

BELGIUM APPROVES ASSISTANCE PROGRAM TO OZRT

AB060610 Kinshasa AZAP in French 1202 GMT 6 Sep 85

[Text] Brussels, 6 Sep (AZAP)--The Belgian Ministerial Committee for Economic and Social Coordination at its meeting on Thursday under the chairmanship of Prime Minister Wilfried Martens, approved the documents presented by the secretary of state for cooperation, Mr de Donnea, concerning a service contract with the USBL [as received, expansion unknown] Radio and Television Service for Third World countries on the implementation of a project of assistance to the Zairian Radio and Television Services [OZRT].

This project comprises a television package (52 newscasts, 52 sporting programs, 24 retranscriptions of educational programs, 10 reproductions of variety programs, and 12 programs on tourism, making 150 programs in all); and an annual radio broadcasting package of 36 programs totaling 12 hours of transmission. It will cover 3 years and will involve the use of technical production equipment, the mobilization of specialized personnel, transport and travel allowance, closely monitoring the implementation process in the field, administrative and diverse costs. The cost of the operation for 3 years is estimated at 20 million Belgian francs.

It is recalled that the ASBL [as received, expansion unknown], emanated from the RTB-BRT [Belgian Radio and Television Network]. It benefits from cooperation from Third World countries.

CSO: 5400/4

ZIMBABWE

BRIEFS

MAPUTO MICRO-WAVE LINK READY--A micro-wave link between Zimbabwe and Mozambique will be commissioned next month and the Zimbabwe-Malawi link will be ready in early 1986, the Minister of Information, Posts and Telecommunications, Dr Nathan Shamuyarira said yesterday. The Mozambican micro-wave line will provide direct direct communications with Zimbabwe and the outside world, completely bypassing South Africa. "The pressing security situation in Mozambique makes the line a high priority and a necessity," Cde Shamuyarira told a symposium in Harare on satellite communications in Africa. Links from Gaborone to Bulawayo and from Lusaka to Bulawayo have already been commissioned. "All these links will greatly enhance communication between SADCC countries with some other PTA countries also benefitting." [Text] [Harare THE HERALD in English 15 Oct 85 p 1]

SYMPOSIUM ON SPACE LINK--A one-week symposium on satellite communications in Africa to discuss this aspect of the Pan-African telecommunications system opened in Harare yesterday. The symposium is being attended by telecommunications representatives from Ethiopia, Kenya, Nigeria, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe. The Pan-African Tele-communications Union and the European Space Agency organised the symposium with the Zimbabwe Posts and Telecommunications Corporation. Among the issues to be discussed at the symposium are: the usefulness and importance of satellites in telecommunications, the technical aspects of a regional domestic satellite system and the capabilities of satellite communications. International organisations such as the EEC and the International Telecommunications Union are also taking part. [Text] [Harare THE HERALD in English 15 Oct 85 p 3]

SYMPOSIUM ON SATELLITES--African countries have been urged to reduce their telecommunications dependence or remain volnerable to overseas interference. The call was made by the minister of information, post, and telecommunications, Comrade Nathan Shamuyarira, when he spoke at the opening session of the economic symposium on satellite communication in Africa, beginning in the (?Calastrove). Comrade Shamuyarira said the continent needs an efficient pan-African telecommunications system to promote the [word indistinct] systems and trade. The minister outlined Zimbabwe's progress in the telecommunications projects, adding that their completion is a milestone in efforts to reduce links with the Pretoria regime. There are more than 60 satellite communication antenna in 45 countries, and feasibility studies have been undertaken to establish one regional system. [Text] [Harare Domestic Service in English 1115 GMT 14 Oct 85 MB]

AUSTRIA

INDUSTRY SPOKESMAN ON PROGRESS, PROSPECTS OF TELETEXT

Vienna INDUSTRIE in German 4 September 1985, pp 21-24

[Interview with Anton Gatnar, Viewdata Kommunkationssysteme GmbH, by Milan Fruehbauer of INDUSTRIE: "The Post Office About to Move into BTX"]

[Text] Agreement among the social partners on implementing regulations and the introduction of the future-bearing Cept norm in the post office would only be the first breakthrough for the teletext in Austria, Anton Gatnar stated. If BTX truly was to be a success, much still would have to be done by all who share in the system.]

[Question] The social partners agreed in July in the teletext field on the last controversial point. Does that mean that a breakthrough finally came for this new medium in Austria?

[Answer] I would be happy if one could say so. It amounts to a first breakthrough. Early this year we were a bit doubtful whether the teletext could become a success. Now at the start of the fall season we must say we have the best chances to forget about those doubts. Two essential prerequisites were still lacking for making BTX successful: One was the introduction of the new Cept technique in the post office, so that we have now a future-bearing system which makes possible to individual providers of data planning their investments more long-range without having to worry about again another system in 2 years.

The other prerequisite was releasing the service, the chance, that is,to proceed from a pilot test the post office could theoretically at any time have refuted, into practice, so that there is a general service. That is now possible on the basis of a legal or consentient arrangement. And that has now come. Based on such consent there now comes a decree from the ministry for transport, the first quasi basic regulation for legally integrating the teletext. In parallel preparations are starting for a teletext law materially starting from the agreements now made.

[Question] How much time, do you think, was lost because of the controversy on what one could do with BTX?

[Answer] Theoretically speaking, one year and three months. Remember that on 1 March last year the service ought to have started. That service was then converted into expanded pilot testing while negotiations continued. I think, though, one should not blame it all on those problems. Even if agreement had been reached a year ago, because of technical givens we would hardly be further ahead with the teletext than we are today. Looked at that way, the loss of time then is not as dramatic as it may look at the first glance.

[Question] Now what is the status of BTX in Austria by mid-year. How many subscribers and how many providers are there by now?

[Answer] By the end of the expanded pilot test, on 29 May this year, there were circa 4,000 subscribers, circa 600 of them providers, for whom one must assume of course that many providers have multiple lines which then are not provider but subscriber lines. And that just happens to be what the post office was out to achieve by the end of the pilot test. The question now is how it will continue. How fast can the post office add more subscribers?

The Postal General Director Sindelka recently said he wanted to get some 7,000 subscribers this year. That seems a perfectly realistic figure to us. In terms of the applications, there would be no problem at all. The question rather is whether it would be technically feasible to add another 3,000 subscribers in the second half of the year. We do not think, though, it should be all that difficult. The technical system the post office has now brought in allows a much larger number of subscribers--approximately 25,000. I think next year it should be perfectly possible to double or triple the number of subscribers.

[Question] Do you expect or hope the post office will start a market offensive in the fall, much like the one in the FRG?

[Answer] We are hoping for that of course. The teletext providers association is likely to help in that too, perhaps through the third telext congress in November this year.

Still I am skeptical as far as marketing alone is concerned. The FRG post office spends much on marketing, and its successes are not exactly overwhelming. The system must promote itself. It is much more important to clarify how fast the post office can launch the system and offer the providers opportunities so that it can meet all appropriate demands. That promotes much better than any sort of targeted marketing concepts making promises that cannot be kept in the end after all.

[Question] With the Viewdata Corporation, which you are managing, you have one of the most important softwarehouses in BTX. How do you judge the transition from the Prestel system to the new CEPT norm? Have all the difficulties that came with it been overcome. Will all programs have been converted by autumn?

[Answer] That is hard to say. One thing has become clear in this conversion, that the predictions my associates and I kept making came true, that, in other words, the automatic converting of sides into the new BTX system functioned

worse than we had feared. Essentially, the providers were forced to make new sides or overhaul their programs; and it now turns out to be a corporate decision of individuals how fast they can make these changes and by which standard they carry out such adaptations. One think, however, may be said in principle: the teletext was invented as a popular data bank for the small consumer. Through converting to the CEPT technique we have gained an extremely impressive presentational level, yet a screen text no longer is so simple a managable hobby medium which any secretary--without intending any disparagement of the job of secretary--could handle on the side, but, just like data processing or a personal computer, calls for special training, much of a sense for the graphics and lots of experience with the medium as such. Since the start of the year my firm has been preparing more than 300 associates of firms and institutions for this new medium in various training courses, and we know that even training courses with several levels can still not straighten out al the questions simply because this just has become too complex a problem.

[Question] The main interest now lies in the trades. What do you think of the BTX chances for private households and private interests?

[Answer] That is the old story of the chicken and the egg. What came first? The problems for the private user--and this is by no means a specifically Austrian problem--continue to be why he should make use of this system in the first place. This question can theoretically be answered because now he can do a great deal. But he must be convinced of it too, in practice. Even if in Austria, by offering the cheap Mupid through the post office, the entry threshold of initial investments is gone or is much cheaper than in other European countries, one still has to overcome the hurdle of circa S 200 per month for basic fees plus access. I believe private users will resort to the teletext at a broader scope not until they in fact encounter interesting applications at adequate numbers that become obvious. Personally I am convinced that a release of telext homebanking, i.e. the calling up of banking services via the teletext, would be an essential precondition for it. An essential element of the teletext furthermore is the chance of releasing telepurchase, i.e. to shop via the teletext--while maximally protecting the consumer interests including the right to return commodities. That alone, however, is not likely to suffice in helping to make the teletext prevail in the private sector. The providers' programs simply still have to become more comprehensive.

[Question] As a program producer you are advising many providers starting at the very first hour of the pilot test. How great is right now the willingness to increase investments in this system, and where are the main thrusts for the data supply?

[Answer] The main thrust has changed. Initially providers sought to put the focal points on their corporations until it was found that, as in the case of a business report or a self-initiated analysis, the internal corporate data, the names of the shareholders and the members of the board, were much less frequently called up than was actual technical information. That means that professional providers are now turning to objective business information, data on a company's size of deliveries, its services, addresses, telephone numbers, associates and the like. And above all, there is more of a trend toward

services for third parties and internal communication. Months of delays in introducing teletext actually compelled the large firms to give up the idea of addressing the end user, seeing that for the time being the number of subscribers would not grow. That brought it about that in this country there are complete models in large and the largest corporations building up through teletext new internal information networks.

As to the question about the willingness to invest, it must be said that the coporations are a bit worried now, and understandably so. For years they invested in teletext and hoped and expected things would speed up, and now, to be sure, they are not exactly disinclined to make further investments, yet they are looking at further developments with caution.

One component we have noticed especially in recent weeks and months is the interest in computer services, i.e. in coupling the teletext with an external computer. I personally believe it will be one of the priorities in the teletext sector in the weeks and months to come to provide external computer solutions which either already exist or now come into being. That will then far exceed homebanking and teleshopping.

[Question] As to external communication, users' closed cycles, computer affiliation, what are the chances the post office now has, do you think?

[Answer] The quality of the Austrian telephone service was the most frightening problem to us from the start. All of us were worried whether teletext would be possible altogether via the Austrian telephone lines. One truly positive realization after 4 years of pilot testing was the fact that the telephone lines, even in areas that in part have poor telephone services, are normally good enough for teletext. Where that is not the case the post office is about to set up so-called computer perimeter facilities which are supposed to make possible also from such areas teletext transmissions at proper quality. A second question is that of contacts, of decentralizing the system. We now have the computers of Salzburg, Vienna and Klagenfurt, and then also the control center in Vienna. Early next year we shall presumably have another one in Innsbruck and one in Graz.

[Question] You mentioned the thrust of combining BTX with external computers. Is that also one of the main lines of consideration for the future at Viewdata. Is that, as it were, emancipated, developed BTX?

[Answer] Probably so. I believe an initial consultation about teletext remains very important, the question, that is, at what ranges teletext should be used in the first place. Where does it make sense? Where should teletext supplement other modes of communication? The main thrust of the initial teletext consultants, the editing of pages and the drafting of pictures and graphics, will continue to be an important function, but in the overall spectrum of consultation as such it will recede more and more to the background. That is to say, the question of consultation becomes prominent for the next higher communication possibilities; there precisely the external computer becomes a central disk. At Viewdata we installed a teletext computer center with the most up-to-date equipment, with access through teletext as well as direct selected circuits. Soon we also want to create the possibility in addition, to access the FRG teletext system from our computer center.

We are planning in this connection a system for ordering for the Austrian tourist economy. A German tourist or travel bureau can then access the German teletext center by paying domestic telephone fees, which then communicates with our computer at reasonable fees. Our computer has stored the wanted data. The German then gets the impression as if the computer were located in the FRG. On the other side, we can offer Austrian tourism a computer located in Austria. This telecommunication via two countries is offered by us for the first time, and long before the post office makes possible the coupling of both networks--in whatever form.

[Question] Does a conventional data bank to be coupled with a BTX system call for special adaptations? In the inputting, the arrangement and the access?

[Answer] That is a philosophical question that has a lot to do with the kind of system used. We are specializing on sparing the one who uses the databank such investments.

[Question] You founded your company early in 1985. Gurus in structural policy call the branch of your activity a growth industry. Is it truly one?

[Answer] We hope so. Otherwise we would not have set up our firm. We all believe that growth must needs prevail in the telecommunications sector, but one should not generalize all that. Even in this field, I believe, all dep on offering special packages.

[Question] What is your own view on the system decision made about BTX, on the norm CEPT 2 that is?

[Answer] The decision has been taken, so it does not make much sense to offer considerations afterwards. We chose the highest standards, which might look a bit like muscle flexing for a country of the size and significance of Austria.

In spite of that our domestic post office has received flank protection for its position because the most recent conference of the European Postal Administrations has made clear that Austria is also through the alpha geometry working in CEPT conformity. Now we enjoy the highest technical level and have to wait and see how fast other countries will catch up with us.

The relatively modest success of BTX in the FRG actually corroborates us in Austria: Without local intelligence, which Mupid, developed in Austria, definitely has, no long-term success of this medium is feasible. Therefore I expect that the FRG is going to push forward soon with its intelligent terminal.

[Question] You are skeptical about the situaion in the FRG?

[Answer] In the light of those euphoric figures bandied about a few years ago with regard to the number of subscribers expected, undoubtedly.

Still one must not lose sight of reality. The FRG has already stored 680,000 disks and hooked up 123 external computers; circa 600,000 inquiries are registered per month. So you cannot talk about a still-birth, as a well-known news magazine did recently.

As far as Austria is concerned. I think it possible that by early 1987 we will have between 20,000 and 25,000 subscribers. That too, to be sure, would only be half the estimates of the past, but it would be a solid beginning. The medium undoubtedly has a future but must be granted developmental chances technical and substantive.

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CSO: 5500/2502

FRANCE

ALCATEL-THOMSON JOINS U.S. FIRM IN SPACE TELECOMMUNICATIONS

Paris ELECTRONIQUE ACTUALITES in French 8 Mar 85 pp 1, 14

[Article by D. Levy]

[Text] Alcatel-Thomson (CGE group)and Fairchild Industries have reached a major industrial, commercial, and financial agreement in the field of space telecommunications.

By the terms of this agreement, the two partners would jointly develop their space telecommunication products and systems through four companies (two in the United States and two in France) in which Alcatel-Thomson and Fairchild Industries mutually hold symmetrical shares. For Alcatel-Thomson, this agreement is part of its internationalization policy, and particularly of its penetration of the American market.

The agreement reached between Alcatel-Thomson and Fairchild--which will next be submitted for approval by the various appropriate forums--hinges around four companies which will be created: two companies specialized in the development and marketing of products for with ground stations, and two companies assigned to design, install, and place in operation complete satellite telecommunication systems for large businesses. The first two are: Fairchild Communication Products (FCPC), recently created in the United States, combining Comtech Data (which Fairchild just bought) and the activities of Fairchild's Communications and Electronics Division (FCEC), in which Alcatel-Thomson will have a 20 percent share (which will be raised to 40 percent at the end of 1986); and Telspace (Alcatel-Thomson's former Faisceaux Hertziens department), which will become a subsidiary and in which Fairchild will hold a 20 percent share (which will be raised to 40 percent in two years).

In the systems area, the companies involved are: Fairchild Communication Networks and Services in the United States, of which Alcatel-Thomson will hold a 20 percent share (raised to 40 percent in two years); and Alcatel Satellite Communication Systems in France, with a 20 percent share for Fairchild (which will be raised to 40 percent in two years).

The mutual participation will not involve any disbursements, the partners considering that their mutual contributions balance each other.

Two Billion in 1988

In the product area (ground stations), the activity of the two companies involved will amount to about 1 billion francs for 1985, meaning 600 million francs for Telspace and $35-40 million for Fairchild Communication Products. The synergy of the two partners should bring this figure to 2.0-2.5 million francs in 1988, with 1 billion francs for Telspace and $100-150 million for its American counterpart. Estimates are more difficult to hazard for turnkey systems, given the unit mass of each order (about 300 million francs each). But as a whole, this field is in full expansion in the United States, while being pushed along by the effects of telecommunications deregulation.

The Alcatel-Thomson/Fairchild agreement takes advantage of the complementary nature of the two companies: Telspace draws most of its experience from the large international telecommunication stations--a field in which it ranks second in the world after NEC, while its intra-business connection activities rest on only one program, Telecom 1. Fairchild on the other hand, benefits from a knowledge of the American market and from the good experience in the study and engineering of satellite telecommunication networks acquired by FCEC, which designs systems for American Satellite (subsidiary of Fairchild and Continental Telephone), specialized in satellite telecommunications for businesses. From now until 1990, it is this market of new services offered to business, that will strongly develop in the United States, while the market for large Intelsat stations will shrink (45 percent of a total market estimated at 6.5 billion francs in 1990, compared to 79 percent of a 3.3 billion market in 1983).

In other words, the agreement represents a breath of fresh air for Telspace's development. Moreover, the market for space telecommunications for businesses will take off after 1990 in the major industrialized nations, and the experience gathered by Telspace and Fairchild in the United States will be usable on other markets. We should note that Fairchild earns more than $1 billion in aeronautics and electronics; its FCEC division has revenues of about $200 million. It will be the civilian telecommunication activities of this division which will be brought to FCPC.

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CSO: 5500/2504

FRANCE

THOMSON TELECOMMUNICATIONS, CIT ALCATEL MERGE

Paris ELECTRONIQUE ACTUALITES in French 19 Apr 85 p 17

[Unsigned article]

[Text] In a letter addressed to the shareholders of CIT-Alcatel, Mr Pebereau, president of CGE, announces that CIT-Alcatel is absorbing Thomson Telecommunications (TT) beginning this year, with an effective date of 1 July 1985.

Mr Pebereau justifies the advancement of the merger date--stipulated by the 1983 agreement as "before 1 January 1987"--by the rapid development of the cohesion process between the two companies: installation of a coherent organization of direction and management, establishment of TT's legal and financial structures, creation of an international instrument unified under the responsibility of Alcatel Thomson International, combination of joint forces for study and development of the future line of exchanges into Alcatel Thomson Developpement, and a well started adaptation of the production structure to technologic changes.

TT (whose capital is currently distributed 12 percent to CGE, 40 percent to Thomson-CSF, and 48 percent to the state), will merge with CIT-Alcatel in a new entity (probably called Alcatel) with revenues of 25 billion (1984) and 50,000 employees, which will be fifth largest in the world in telecommunications. According to the merger terms, CGE will hold more than 51 percent of the new entity, Thomson-CSF will receive about 15 percent of the shares, and the rest will be placed on the stock exchange. The government will be reimbursed for its share in TT with CGE stock. But the government already holds 100 percent of the nationalized company. No matter, the capital will be increased!

After "cleaning house" in his group, Mr Pebereau will strive to implement an international strategy which "will hold the road." Will he place all his bets on the European card--the signing of an agreement with Siemens, Italtel, and Plessey--or will he favor the alliance with the two giants (ATT/Philips and ITT, with which he has met recently)? And why not play both hands?

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FRANCE

ARIANESPACE PROPOSES NEW KIND OF SATELLITE INSURANCE

Paris AFP SCIENCES in French 19 Sep 85 p 22

[Unsigned article]

[Text] Kourou--Even before the failure of the 15th launch of the European rocket, the company Arianespace had announced in August a proposal to those customers whose satellites it must place in orbit during the next three years.

According to Charles Bigot, director general of Arianespace, the proposal specifies that "Arianespace is ready to collect premiums of 11 percent of the cost of your satellite's insurance, to insure it for the launching phase until its separation from the launcher.

This corresponds to a new insurance capability equivalent to the value of the launch, which depending on the model of rocket used by Ariane, amounts to $40-70 million; it is also tantamount to insuring a possible first failure and allowing the financing with reinsurers, of an improbable second failure.

Half of our customers have responded positively or are asking specific questions, demonstrating their interest in our proposal."

If the favorable responses are satisfactory, and if some conditions (fiscal ones in particular) are met, Arianespace plans to create before the end of 1985, and maybe even as soon as November, a wholly owned subsidiary insurance company. Arianespace's board of directors has approved the idea, which remains to be implemented.

One obstacle is that in order for this company to operate under perfect conditions, it needs an exemption from the insurance company system, meaning that the subsidiary will not have to pay taxes on the premiums collected in advance for contracts which do not become effective and applicable until much later. The ideal situation would be to establish this subsidiary in a country such as the Bahamas or Bermuda, for instance.

NASA, faced with the same problem of insurance premiums paid by its customers, is also offering them advantages, but in another form: it offers to launch replacement satellites in case of failure, but at one-half the usual launching cost.

This type of launch insurance is an old idea at Arianespace, which first proposed it one year ago. At the time, the European company had experienced a long series of successes, and with respect to insurance, was suffering from failures of American shuttles to place satellites in orbit. Today, it finds itself in the same situation as NASA with its shuttles.

Arianespace's proposal after ten absolutely catastrophic months for world insurers, has a chance of drawing some interest, because premiums will go even higher.

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FRANCE

SAT DEVELOPS NEW KIND OF VOICE-DATA TRANSMISSION SYSTEM

Paris ELECTRONIQUE ACTUALITES in French 20 Sep 85 p 18

[Article by DL]

[Text] At Sicob, SAT and its subsidiary Satelcom International, stress the broad range of products they offer for business communications.

A strongly growing activity, both in data transmission (500 million francs of orders during this year, for a 25 percent growth), and in private exchanges (250 million francs of orders for a 50 percent growth over last year), places SAT among the major European manufacturers in the sector. To illustrate their mastery, SAT and Satelcom are showing a complete business communication network in actual operation.

This network services the SAT and Satelcom stands, connected by a 2 Mbit/s MIC digital line. Organized around SAT's top of the line telephone automatic exchange Telcom 320, the network uses voice-data converters, multiplexers, and modems. It offers all the functions necessary for a business: advanced telephone software, simultaneous voice and data transmission, access to interactive servers (directories, voice messages, and so on), and access to the outside world through a switched telephone network or Transpac.

However, this multiservice application is derived from an original action of the manufacturer: associated with the Telcom 320 is a computer switching unit, offering users of asynchronous terminals the possibility of accessing various local or distant servers, while sharing on the distribution side the same physical support used for voice, through a voice+data converter. This pragmatic approach--while awaiting as the next phase, a complete integration of data conforming to the new CCITT (channel D) procedures--has three advantages: it takes into account the heterogeneous terminals of an enterprise, avoids burdening the capacity (in erlangs) of the automatic exchange with a large number of terminals, and appears to be an economical solution.

The Sicob demonstration uses HP 2632, Newbury, and Minitel terminals, as well as Macintosh and IBM-PC micros. A simple work station (consisting of a telephone set and one of these terminals) is connected by a single telephone

pair to the Telcom 320. During the telephone conversation, the user can from the terminal alone, select from a menu and connect through a guided procedure to various applications which can be implanted on an internal or external server connected to the system.

Telcom 320 manages the acceptance and access authorizations for terminals, to applications or servers. One such example is the voice message and directory function (accessible from terminals or from black and white or color Minitels).

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FRANCE

MATRA OF FRANCE WORKS ON SOFTWARE FOR LOW-ORBIT SPACE VEHICLES

Paris ZERO UN INFORMATIQUE HEBDO in French 23 Sep 85 pp 54-55

[Excerpts] Matra's space branch has specialized in the design of software for space vehicles. The "ne plus ultra" in this sector will be launched next November by the Ariane; it will be the Spot 1 satellite.

Even before one lands at the Toulouse-Blagnac airport, the tone is already established. Matra's space branch is located on Rue des Cosmonautes. Six hundred people work there. There is another center of space activity, of equal size, the EPT, Space-Products-Technology, at Velizy near Paris.

Smoked glass buildings, security guards, white smocks..., there is nothing misleading about the decor. Matra has a "white room," the largest satellite assembly area in Europe (14 meters high, 75 meters long, 25 meters wide; fewer than 10,000 dust particles per cubic meter). It is an "archi clean" factory (a room classified as clean only tolerates 100,000 particles)!

At Toulouse, Matra assembles the Ariane "systems compartment," in other words, the brain of the European launch vehicle. In all, the turnover realized in 1984 by this branch was Fr 1,250 thousand or an increase of 272 percent compared to 1980. At the same time, personnel only increased by 87 percent.

At Toulouse, 80 people make up the data processing and ground systems division of the space branch. Within this structure four large areas of activity are developed: on-board systems, software oriented; operations centers, the data processing systems for control and communications with space vehicles; data processing test facilities up to the final phase of prelaunch validation; and satellite simulators, software configurations. These systems are used solely by specialists in aerospace engineering (hardware, operational software, orbitography, temperature control, power, etc.).

Jean-Pierre Cau, 35-year-old degreed electrical engineer, had taken part in the development of Spacelab, the European space laboratory. He came to Toulouse in 1980. He is the one who directs the on-board software services and the operating systems department.

The inner circle of "top level" designers consists of 17 people who concentrate on the on-board software. Around them are European coworkers (three Britons at present), SSII's from Toulouse, military software specialists, employees of the general data processing division and configuration specialists. That is the team, about 30 people in all.

The first area of concentration of research is the French low-orbit program; the satellites of the Spot type are part of it. "We have been working on it since 1980," explains Jean-Pierre Cau. "The centralized type of on-board software, operating on the Saab computer, represents 40,000 words of memory; it took 2 years of validation testing and its functions will permit overall control of the satellite: altitude, power, temperature, pyrotechnics, acquisition sequence, space/earth communications.... It is at the heart of the system and interfaces directly with all of the satellite and ground hardware. It works about 95 percent independently."

Three Main Areas of Concentration in Orbit

"A low-orbit satellite is only seen from earth 5 percent of its life, in contrast to a geostationary satellite. This is the first time that such software has been created in Europe for this type of satellite. The ambition is all the greater since Spot's pictures will be marketed, as opposed to a scientific satellite which is only launched once. We had to show real creativity for this software. In fact, it has been said that the next comparable piece of work will be the Hermes shuttle and the Columbus station."

The size of the on-board software for Hermes is already estimated at 500,000 words. From then on, the presence of man in space will permit real time intervention on the software from the space vehicle.

The second area of concentration is that of the European low-orbit program. "The European Space Agency [ESA]," Jean-Pierre Cau continues, "will use the multimission platform which we developed for the French low-orbit program. A commercial European mission, ERS 1, "Earth Resource Satellite," for study of oceanographic data, was organized: height of waves, fish shoals, pollution. New decentralized on-board software tailored to the job will be developed."

"Spot was centered around a huge computer. ERS 1 will have distributed software which will dialogue with four computers with four different processors. We will need to resolve protocol and communications problems then validate the entire system. The development stage began last January. Launch is planned for June 1989."

The third area of concentration is that of scientific satellites. These are the satellites with five arms. They can be geostationary or elliptical or low-orbit... but each is unique. Take for example, Hipparcos, on which Matra's computer scientists are now working. This European satellite should improve our knowledge of the movement of the stars relative to each other by a factor of 100 compared to what is now known.

Data collected will either confirm or disprove the theory of the expansion of the universe. It is a 2 year mission and the study of the data will take perhaps 5, 6 or maybe 10 years.... "Our software will therefore be tailored to the project," explains Jean Pierre Cau, "with very specialized problems of specification and validation. It will receive orders continuously from the ground while taking care of its own drift and correcting its view of the sky. We are now in the intensive software production phase. We will move into the validation phase in fall 1985."

Virtually all on-board computing research programs are the result of contracts between Matra and the European Space Agency. This sort of research is not entered into on a whim.... There is very little internal financing, except for the activities of training and independent study, carried out in cooperation with the scientific community of Toulouse: the university or the automation and analysis laboratory of the CNRS [National Center for Scientific Research].

Contracted Research

With Columbus, a veritable technological leap should be accomplished. After inviting bids, ESA asked Matra to study more thoroughly the architectures, local area networks, automation and autonomy of orbital stations.

All the programs are written in assembler language; high level languages are scarcely beginning to enter this type of application: with the C language for the Eureca platform. "We are preparing to use Ada," remarks Didier Perarnaud, 30-year-old staff member in charge of future development at the center, "for the simple reason that Ada is pretty much the language recommended by NASA. But it will still be a while before Spot's software, for example, is programmed with Ada. The performance of compilers using Ada is still too weak."

A 3-year action plan has been set up for software engineering. "Our goal is to provide ourselves with the infrastructure which will allow us to encode and set up software systems like those for Hermes or Columbus," Didier Perarnaud adds. "This tool must include the entire compiler, interactive test facilities, processor simulator, abstract machine-design methodology, specification validation methods. All of this will ultimately operate in an integrated environment, a software development shop."

In over 4 years of activity, the Matra center will have produced 40 to 50 systems, for a total of 3 million instructions created.

Space Business

"The space market involves a huge trade in data processing," declares Bernard Plano, 41-year-old division manager. "The term 'power supply' did not have its historic meaning. From the very beginning, we undertook in-depth activity in the software field; that is what prevented our having to jump on the bandwagon late.... Today, we are at a real turning point. Management of data in space will generate greater commercial exploitation of data on the ground. We are going to enter an new space age."

Five years ago the only thing anyone talked about was structured programming. No one had heard of software engineering. Space data processing is in the process of being transformed from guidelines into tools.

The First Intelligent Satellite

15 November 1985: Launch of Spot 1, the first European intelligent satellite... if the programs are finished on time and if the clouds in Guyana are not too capricious. Spot is supposed to photograph the earth while circulating in low orbit 832 km overhead. Since it will not be visible for 8 hours and then only appear for 10 minutes, it cannot be teleguided. It therefore needed an autonomous brain; that is the job of the on-board software which is actually a guidance program.

This 40,000 word software system, delivered last May to the National Center for Space Study [CNES], is reported to have a life expectancy of 2 years. The goal set for launch day is "zero error." Furthermore, during the entire acquisition sequence of the launch of the satellite by the Ariane, there is an automatic sequence which lasts for two 90-minute orbits and which is driven entirely by this same software. If there is the least bug, all is lost.... A methodology has been developed for the occasion; it benefits from experience with Spacelab for which, from 1977 to 1980, Matra designed a "super operating system."

Four Spot satellites are planned. Spot 1 could not take advantage of software tools, and the productivity of the design of the software suffered greatly from that. Three thousand test cases were run--manually--over 2 years for this first model. Imagine the volume of the listings! Automation of the procedures will take place with Spot 3, to be launched in 1990, and Spot 4.

Research is currently being carried out on Spot to implant an expert system on board the satellite for treating malfunctions. This treatment has been accomplished algorithmically in the past.

Computation and Test Hardware

Out of the four VAX minicomputers at the computer center, only the 785 is used for scientific computing: planning of measures and commands, mission data bases, production and development of flight software systems and, finally, in-flight management of software configuration. Recently, testing began on a Norsk Data/Matra Data Systems ND 105430-5470/560-CX for development of the software systems for the Spot 3 and 4 satellites.

In the test chamber connected to the center, there are several distinct work stations for in-flight software. There, the software is tested module by module, the integration of these modules is tested as well as their linkage. A software mock-up is then created using two processors: one to interface with the operator and the other to simulate the satellite (cinematic, dynamic, temperature, supply and live-load aspects).

In this way, the work station used for Spot's software carried out approximately 2,500 functional test cases and 600 validation test cases.

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BRIEFS

CNET FACILITY ENLARGED--The first study bids for the construction of a second group of buildings at CNET's (National Center for Telecommunication Studies) Centre Norbert Segard (CNS) in Grenoble have just been closed. Construction should start at the end of 1985, with buildings being ready for occupancy at the end of 1987. The investment will be 70 million francs without equipment. A definite role for the new buildings has not yet been assigned, but they will most probably support CNS' two major current projects, to wit: an agreement with MHS for a 1.2 micron technology by 1986, and the Esprit program, for which CNET must prepare a 0.7 micron CMOS technology. Since 1977, when it was created, the Grenoble CNET will have represented an overall investment of 650 million francs (including salaries). In 1985, the center's budget is 70 million francs excluding salaries (CNS employs 300 people). [Text] [Paris ELECTRONIQUE ACTUALITES in French 8 Mar 85 p 20] 11,023

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SWITZERLAND

POST OFFICE PLANS LARGE INVESTMENTS, INNOVATIONS

Geneva JOURNAL DE GENEVE in French 21/22 Sep 85 p 5

[Text] PTT: 12 billion in investments during the next 5 years. Ten billion will be devoted to telecommunications.

The PTT plans to create 3000 jobs by the end of the decade, and to invest 12 billion francs, including 10 billion for telecommunications, during the next 5 years. The enterprise plans some withdrawals from its reserves to finance this amount of investment because in the future the degree of self-financing is to diminish slightly. However, during a recent meeting with [representatives of] the French-language Swiss economic press, Hans Werner Binz, chairman of the board of directors, declared there is no question of resorting to borrowing in the near future.

For the first 6 months of 1985, PTT outlays increased by 3.5 percent overall, including 8 percent in the international telecommunications sector. Mr Binz indicated that the 256 million in enterprise profits listed in the 1985 budget will be reached and even slightly surpassed. The 1986 budget provides for a 3.4 percent increase in demand and an enterprise profit of 295 million.

Next year's results will be affected by the increase in international postal rates (an increase determined by the Universal Postal Union) which will go into effect on 1 January 1986, and which should bring in 45 million more each year; on the other hand, the reduction in telephone and telex rates in international service, planned for 1 February 1986, will be reflected by a revenue decrease of 90 million per year.

1986 Investments

Investments will reach a record volume of 2,263 million francs in 1986; they will be 90 percent self-financed. To better ensure their future financing, the PTT expects to enlarge and strengthen the base of its own funds. The latter, which are made up of three allocated reserves, today represent only 1,088 million francs, or barely 6 percent of the balance sheet.

Talks are currently going on with the federal chambers with a view to creating a legal basis for permitting the enterprise to use its reserves to finance its

investments. The idea is to transform its current reserves into capital stock and with the results create a new equalization fund to serve as a "compensation pool," absorbing earnings account fluctuations from one year to another.

On the other hand, the PTT does not seek to reduce the payment of a part of its profits to the Confederation (150 million in 1984).

Telecommunications: Innovations

It is recalled that in the telecommunications field the PTT is currently building a digital transmission network in Switzerland which 50 percent of the subscribers may use by the year 2000. The first step of this network will be finished in 1988 with the construction of "SWISSNET," which will provide a completely digital transmission [system] for subscribers of the principal cities of the country.

The advantages of this new network will include, in particular, considerably increased speed and output: voice transmissions, images, and data will be done at the rate of 64 thousand bits per second between each subscriber while in the telephone community today the speed is limited to 2.4 or 4.8 thousand bits per second. Furthermore, the new digital network will make it possible to transmit computer data without modems.

Liberalization and New Services

PTT is anticipating some liberalization of the choice of terminals at the consumer level, without waiting for the new telecommunications law. Currently, telephones, telexes, and modems are still subject to the total monopoly of the PTT (they must be furnished by the PTT) but Mr Traschel, telecommunications manager, indicated that over the next few years liberalization could take place in the telephone field. The consumer could freely select his telephone receiver, but only among PTT approved models. (At present, an abundance of cheap model telephones from Southeast Asia are sold without restrictions in Switzerland. In fact, importation of these telephones remains free in our country. In this connection we note that recently France purely and simply forbade the importation of non-approved telephones.)

The new law on telecommunications currently under discussion will not end the PTT monopoly but should introduce a certain liberalization of the selection of terminals by the consumer. The draft law was drawn up by a study commission headed by Mr Fritz Muhlemann, general secretary of the department of transport and communications. Leading representatives of the PTT must still approve it this autumn; the federal council [must approve it] by the end of 1985; and it must undergo the official consultation procedure in 1986. Its definitive passing by Parliament is expected before the end of the decade.

Among the new services the PTT will soon offer in the field of telecommuncations, we note the extension of the mobile telephone network, "Natel B," which should be finished at the end of 1986 and permit the connecting of 14,000 additional subscribers. A new "Natel C" network will be ready between now and 1990, and will accommodate 120,000 more subscribers.

The "Nordic Telephone" system was selected; it will be tested in 1986. New calling services, "Eurosignal," and the "B" calling service, are now being introduced. Finally, on 1 March 1986 a new service, "Omnitel, will be offered: a calls retransmission system permitting sumultaneous programing of several destination points for calls in Switzerland and abroad.

Innovations at the Post Office

To struggle against competition of private courrier services, the Post Office, for its part, has made several innovations. In particular, the "Express Mail Service" (rapid international postal service) and "Eurocolis" [Europackage]. The former has been in existence since 1984 and the latter will be introduced in Europe on a trial basis on 1 October. Mr Guido Nobel, manager of the Post Office, indicated that Eurocolis will replace the current express-mail [service] and, thanks to an accelerated customs procedure, will offer delivery in a maximum of 3 to 5 days.

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